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Review and Assessment of Deep-Well Injection of Hazardous Waste. Volume III Appendix D

Louis R. Reeder and Associates, Tulsa, Okla

Prepared for

Municipal Environmental Research Lab, Cincinnati, Ohio Solid and Hazardous Waste Research Div

Jun 77

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16. ABSTRACT This four volume report is a review and assessment of the adequacy of deep-well waste injection systems to receive hazardous wastes and to define what effects that these wastes will have upon the environment when injected into subsurface reservoirs. All aspects of deep-well injection systems have been touched upon.

A comprehensive bibliography, chemical waste profiles, deep-well inventory, case histories, microbiological research, deep-well and hazardous waste research, legal aspects and an inventory of statues and regulations governing waste injection are discussed in the text and detailed in the appendices.

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REVIEW AND ASSESSMENT OF DEEP-WELL INJECTION OF HAZARDOUS WASTE

Volume III - Appendix D

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OFFICE OF RESEARCH AND DEVELOPMENT
U. S. ENVIRONMENTAL PROTECTION AGENCY
CINCINNATI, OHIO 45268

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FOREWORD

The Environmental Protection Agency was created because of increasing public and government concern about the dangers of pollution to the health and welfare of the American people. Noxious air, foul water, and spoiled land are tragic testimony to the deterioration of our natural environment. The complexity of that environment and the interplay between its components require a concentrated and integrated attack on the problem.

Research and development is that necessary first step in problem solution and it involves defining the problem, measuring its impact, and searching for solutions. The Municipal Environmental Research Laboratory develops new and improved technology and systems for the prevention, treatment, and management of wastewater and solid and hazardous waste pollutant discharges from municipal and community sources, for the preservation and treatment of public drinking water supplies, and to minimize the adverse economic, social, health, and aesthetic efforts of pollution. This publication is one of the products of that research; a most vital communications link between the researcher and the user community.

This contract was supported by the EPA to provide a comprehensive review and data compilation of deep-well injection as a control and disposal technology for hazardous waste. Because of the large amount of information resulting from this contract, the report is divided into four volumes. Readers interested only in the general information about deep-wells are referred to Volume I. Those interested in the detailed data compiled during this work are referred to the remaining volumes in addition to Volume I. The information is providing input into the EPA's program for assessing control technologies available for managing the Nation's large quantities of hazardous materials.

Francis T. Mayo, Director
Municipal Environmental Research Laboratory

ABSTRACT

A review and analysis of the available information related to deep-well injection, and an assessment as to the adequacy of this method for managing hazardous wastes and ensuring protecting the environment was made.

One hundred-five deep-well related research projects were identified and hazardous waste research projects numbered 186. More than 1,000 papers related to deep-well injection of industrial waste were reviewed.

Geologic and engineering data are available in many areas to locate, design and operate a deep-well system receiving hazardous wastes. The most serious problems encountered are because of failure to use available geologic information and accepted and proven engineering practices in design and completion. A small group of waste chemicals with high human and ecological hazard ratings, little known degradability characteristics or long persistence times are identified as undesirable for injection unless containment within the host reservoir is certain.

There is a paucity of information on salaquifer chemistry, and the chemical and microbiological reactions of waste within a receiving salaquifer. Monitoring of deep-well systems needs to be dveloped into a predictive tool to be fully effective.

State statutes and regulations vary greatly on deep-well injection. To alleviate any problems arising from the use of interstate aquifers for injection, and for more effective management and control of deep-well systems, a standardization of regulations is considered necessary.

This report was submitted in fulfillment of EPA Contract 68-03-2103. The report is comprised of 4 volumes; the main text, Appendices A through C, Appendix D, and Appendices E through J. Volume III, Appendix D, presents contractors inventory of industrial waste injection wells through December 31, 1974. The inventory was developed by incorporating data from previous inventories and data collected from state agencies or individual operations. Other volumes

provide the main text and additional appendices of detailed data.

As a result of EPA review of this document, there were a number of questions and issues raised as to the conlusions made versus those warranted based upon available information. The user is referred to Appendix J for additional information resulting from this review and the contractors' response to that review.

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SECTION XI

APPENDIX D

INVENTORY OF INDUSTRIAL WASTE

INJECTION WELLS IN THE UNITED STATES

This inventory of industrial waste injection wells incorporates information gathered from previous inventories supplemented by data collected from state agencies or individual operations through December 31, 1974.

Location plats are included with the Louisiana and Texas wells and the calculated radius of invasion is presented for wells where sufficient data were available.

WELL STATUS LETTER CODE KEY

Operating Status

O : Operating
NOP : Not Operating, Plugged
NOUP : Not Operating, Unplugged
DN : Drilled, Never Used
PND : Permitted, Not Drilled
PC : Permit Cancelled, Never Drilled
D : Drilling

Permit Status

PDR : Permitted, Drilled
PDC : Permitted, Drilled, Cancelled
PDP : Permitted, Drilled, Plugged
PNC : Permitted, Not Drilled, Permit Cancelled
PND : Permitted, Not Drilled
APP : Applying for Permit
SNA : Status Unknown
DNP : Drilled, Not Permitted

EPA REGION II

New York

[illegible] [illegible]

OPERATIONAL STATUS: [illegible] REGION NO: [illegible]

PERMIT STATUS: [illegible] WELL CODE: [illegible]

I. [illegible] IDENTIFICATION DATA

[illegible]

II. [illegible] WELL DATA

[illegible]

III. GEOLOGIC INFORMATION

[illegible]

IV. WASTE CHARACTERISTICS

[illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

[illegible]

VI. OPERATION CHARACTERISTICS

[illegible]

VII. MONITORING

[illegible]

REFERENCES

[illegible]

EPA REGION III

Pennsylvania = 499
West Virginia = 508

OPERATIONAL STATUS: [illegible] REGION NO: [illegible]
PERMIT STATUS: [illegible] WELL TYPE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

[illegible]

III. GEOLOGIC INFORMATION

[illegible]

IV. WASTE CHARACTERISTICS

[illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

[illegible]

Well Head Equipment [illegible]

Subsurface Equipment [illegible]

[illegible]

VI. OPERATING CHARACTERISTICS

[illegible]

VII. MONITORING

Monitoring Devices and Data [illegible]

[illegible]

Construction Requirements [illegible]

Monitoring Requirements [illegible]

[illegible]

OPERATING COMPANY: [illegible]
ADDRESS: [illegible]

OPERATIONAL STATUS: [illegible] REGION NO.: [illegible]
PERMIT STATUS: [illegible] WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

Type of Waste Injected: [illegible]

[illegible]

III. GEOLOGIC INFORMATION

Geological Description of Rock Units Penetrated by Well:

Name	Age	Depth	Thickness	Lithology
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Description of Injection Unit:

[illegible]

Geohydrology of Fresh Water Aquifers in Vicinity:

Unit	Depth	Thickness	Lithology	Fluid Character

Mineral Resources in Area:

Location of other wells in the Affected Area: [illegible]

IV. WASTE CHARACTERISTICS

Chemical Description: [illegible]

[illegible]

Reaction with Surface Equipment: [illegible]

Degradability Level and Rate:

Biological Level Before and After Injection (Est.):

Pre-Injection Waste Treatment: [illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

[illegible]

Type and Amount of Cement: [illegible]

Well Head Equipment: [illegible]

Subsurface Equipment:

Completion Method: [illegible]

Plugging Record:

Holding Tanks and Flow Lines: [illegible]

[illegible]

VI. OPERATING CHARACTERISTICS

Injection Rates: Average [illegible] Maximum [illegible]

Injection Pressure: Average [illegible] Maximum [illegible]

Operating History, Local Problems: [illegible]

VII. MONITORING

Monitoring Devices and Data:

Sampling Frequency and Water Quality Parameters Measured:

Frequency of Measuring Water Levels and Hydrostatic Heads:

Contingency Plan for Well Failure During Operation:

Construction Requirements:

Monitoring Requirements:

Restrictions on Operation Procedures:

MISCELLANEOUS

OPERATING COMPANY: [illegible]
ADDRESS [illegible]

OPERATIONAL STATUS: [illegible] REGION NO.: [illegible]
PERMIT STATUS: [illegible] WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

Type of Waste Injected: [illegible]

[illegible]

III. GEOLOGIC INFORMATION

Lithologic Description of Rock Units Penetrated by Well:

Name	Age	Depth	Thickness	Lithology
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Description of Injection Unit

[illegible]

Hydrogeology of Fresh Water Aquifers in Vicinity:

Name	Depth	Thickness	Lithology	Fluid Character
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Mineral Resources in Area

Location of Other Wells in the Affected Area

IV. WASTE CHARACTERISTICS

Chemical Description: [illegible]

[illegible]

Reaction with Surface Equipment: [illegible]

Degradability Level and Rate: [illegible]

Biological Level Before and After Injection: [illegible]

Pre-Injection Waste Treatment

V. WELL DESIGN AND SURFACE EQUIPMENT

[illegible]

Type and Amount of Cement

Well Head Equipment

Subsurface Equipment

Stimulation Method: [illegible]

Plugging Record

Holding Tanks and Flow Lines

[illegible]

VI. OPERATING CHARACTERISTICS

Injection Rates: [illegible]

Injection Pressure: [illegible]

Operating History: [illegible]

VII. MONITORING

Monitoring Devices and Data

Sampling Frequency and Water Quality Parameters Measured

Frequency of Measuring Water Levels and Hydrostatic Head

Contingency Plan for Well Failure During Operation

Construction Requirements

Monitoring Requirements

Restrictions on Operating Procedures

Miscellaneous

[illegible]

OPERATING COMPANY: [illegible]
ADDRESS: [illegible]

OPERATIONAL STATUS: [illegible] REGION NO.: [illegible]
PERMIT STATUS: [illegible] WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

Type of Waste Injected: [illegible]

[illegible]

III. GEOLOGIC INFORMATION

Geological Description of Rock Units Penetrated by Well:

Name	Age	Depth	Thickness	Lithology
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Description of Injection Unit:

[illegible]

Name	Depth	Thickness	Lithology	Fluid Character
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Mineral Resources in Area: [illegible]

Location of other wells in the affected area: [illegible]

IV. WASTE CHARACTERISTICS

[illegible]

Reaction with Surface Equipment: [illegible]

Degradability Level and Rate: [illegible]

[illegible]

Pre-Injection Waste Treatment: [illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

[illegible]

Type and Amount of Cement: [illegible]

Well Head Equipment: [illegible]

Subsurface Equipment: [illegible]

[illegible]

Plugging Record: [illegible]

[illegible]

VI. OPERATING CHARACTERISTICS

Injection Rate: [illegible]

Injection Pressure: [illegible]

Operating History and/or Problems: [illegible]

VII. MONITORING

Monitoring Devices and Data: [illegible]

Sampling Frequency and Water Quality Parameters Measured: [illegible]

Frequency of Measuring Water Levels and Hydrostatic Heads: [illegible]

Contingency Plan for Well Failure During Operation: [illegible]

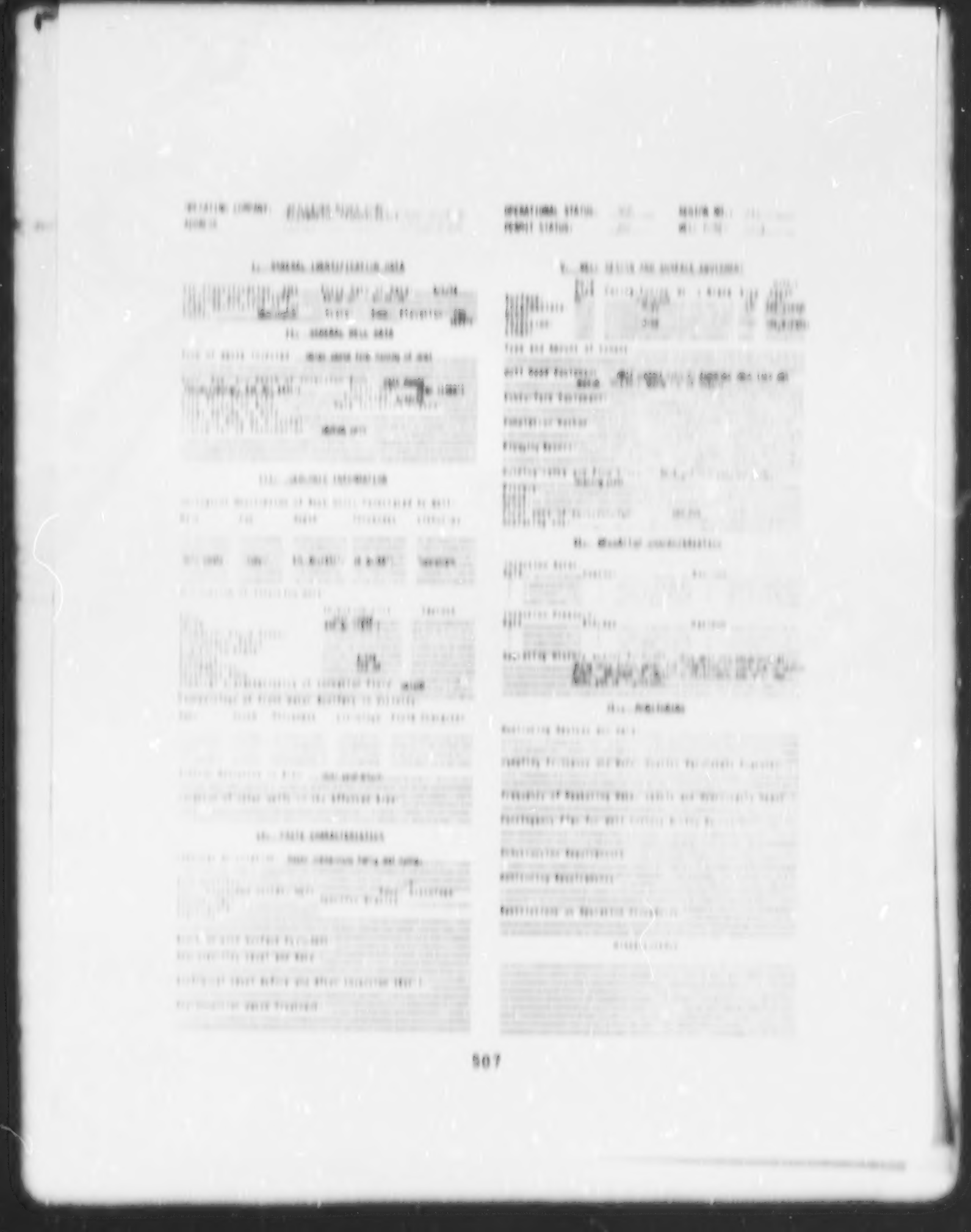
Construction Requirements: [illegible]

Monitoring Requirements: [illegible]

Restrictions on Operation Procedures: [illegible]

MISCELLANEOUS

[illegible]



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ADDRESS [illegible]

OPERATIONAL STATUS: [illegible] REGION NO.: [illegible]
PERMIT STATUS: [illegible] WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

[illegible]

III. GEOLOGIC INFORMATION

[illegible]

IV. WASTE CHARACTERISTICS

[illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

[illegible]

VI. OPERATING CHARACTERISTICS

[illegible]

VII. MONITORING

[illegible]

REFERENCES

[illegible]

OPERATING COMPANY: [illegible]
ADDRESS [illegible], WEST VIRGINIA

OPERATIONAL STATUS: [illegible] REGION NO.: [illegible]
PERMIT STATUS: [illegible] WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

[illegible]

III. GEOLOGIC INFORMATION

[illegible]

IV. WASTE CHARACTERISTICS

[illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

[illegible]

VI. OPERATING CHARACTERISTICS

[illegible]

VII. MONITORING

[illegible]

MISCELLANEOUS

[illegible]

OPERATING COMPANY: [illegible]
ADDRESS: [illegible]

OPERATIONAL STATUS: [illegible] REGION NO.: [illegible]
PERMIT STATUS: [illegible] WELL TYPE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

[illegible]

III. GEOLOGIC INFORMATION

Geological Description of Rock Units Penetrated by Well:

[illegible]

Description of Injection Unit:

[illegible]

IV. WASTE CHARACTERISTICS

[illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

Hole Size | Casing,Tubing, Wt. & Grade Size | Depth

[illegible]

Type and Amount of Cement: [illegible]

Well Head Equipment: [illegible]

Subsurface Equipment: [illegible]

Completion Method: [illegible]

Plugging Record: [illegible]

Holding Tanks and Flow Lines: [illegible]

Filters: [illegible]
Pumps: [illegible]
Other: [illegible]
Total Cost of Construction: [illegible]
Operating Cost: [illegible]

VI. OPERATING CHARACTERISTICS

Injection Rate: [illegible]

Injection Pressure: [illegible]

Operating History: [illegible]

VII. MONITORING

Monitoring Devices and Data: [illegible]

Sampling Frequency and Water Quality Parameters Measured: [illegible]

Frequency of Measuring Water Levels and Hydrostatic Heads: [illegible]

Contingency Plan for Well Failure During Operation: [illegible]

Notification Requirements: [illegible]

Reporting Requirements: [illegible]

Restrictions on Operating Procedures: [illegible]

MISCELLANEOUS

[illegible]

OPERATING COMPANY: [illegible]
ADDRESS [illegible]

OPERATIONAL STATUS: [illegible] REGION NO.: [illegible]
PERMIT STATUS: [illegible] WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

[illegible]

III. GEOLOGIC INFORMATION

[illegible]

IV. WASTE CHARACTERISTICS

[illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

[illegible]

VI. OPERATING CHARACTERISTICS

[illegible]

VII. MONITORING

[illegible]

OPERATING COMPANY:
ADDRESS:

OPERATIONAL STATUS:
PERMIT STATUS:

REGION NO.:
WELL CODE:

I. GENERAL IDENTIFICATION DATA

II. GENERAL WELL DATA

III. GEOLOGIC INFORMATION

IV. WASTE CHARACTERISTICS

V. WELL DESIGN AND SURFACE EQUIPMENT

VI. OPERATING CHARACTERISTICS

VII. MONITORING

BIBLIOGRAPHY

EPA REGION IV

Alabama	-	515	Mississippi	-	535
Florida	-	522	North Carolina	-	537
Kentucky	-	532	Tennessee	-	541

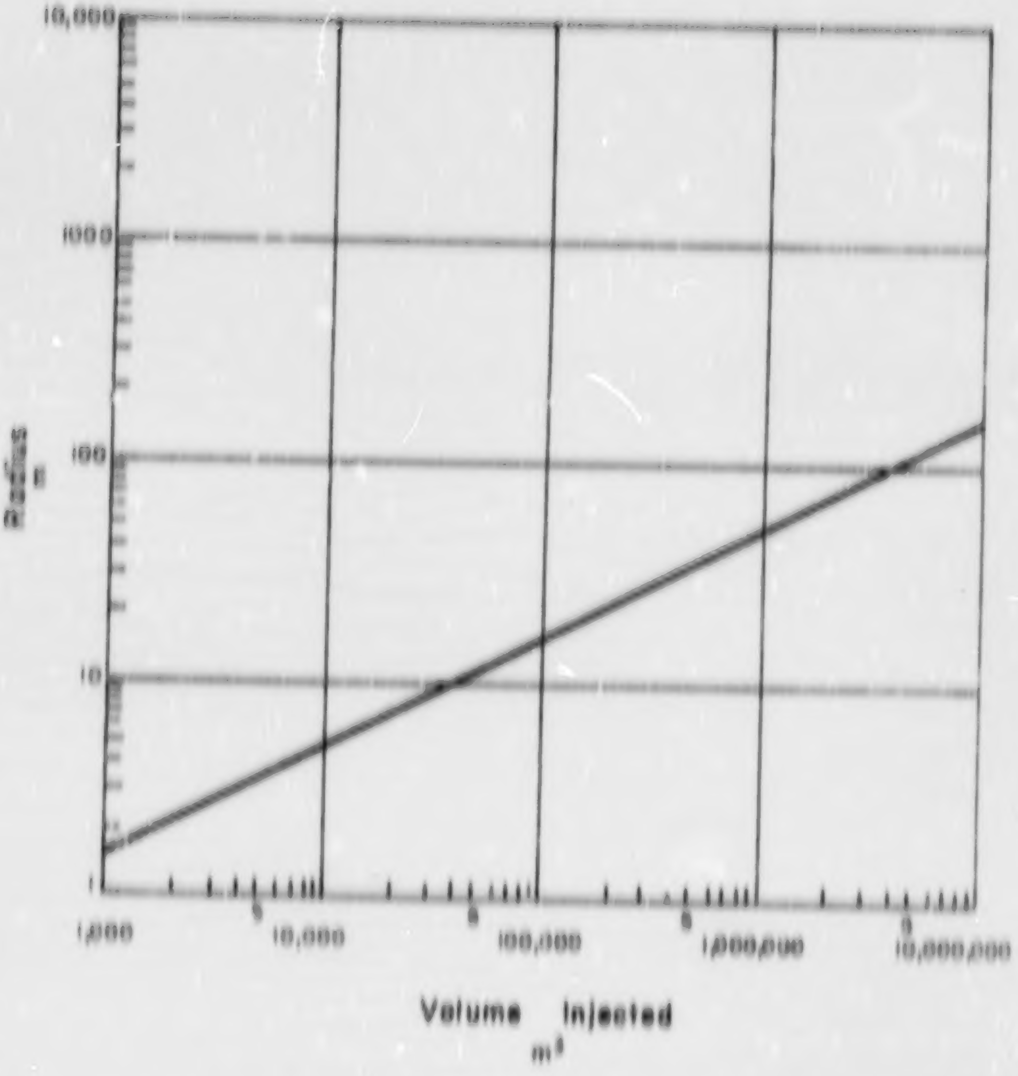

Figure 18. Radius of invasion for well AL-1

OPERATING COMPANY: [illegible]
ADDRESS: [illegible]

OPERATIONAL STATUS: [illegible] REGION NO.: [illegible]
PERMIT STATUS: [illegible] WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

[illegible]

III. GEOLOGIC INFORMATION

[illegible]

Mineral Resources in Area: [illegible]

Location of other wells in the affected area: [illegible]

IV. WASTE CHARACTERISTICS

[illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

[illegible]

VI. OPERATING CHARACTERISTICS

[illegible]

Operating History and/or Problems: [illegible]

VII. MONITORING

[illegible]

Sampling Frequency and Water Quality Parameters Required: [illegible]

Frequency of Reporting Water Levels and Hydrostatic Heads: [illegible]

Contingency Plan for Well Failure During Operation: [illegible]

[illegible]

Monitoring Requirements: [illegible]

Restrictions on Operating Procedures: [illegible]

REFERENCES

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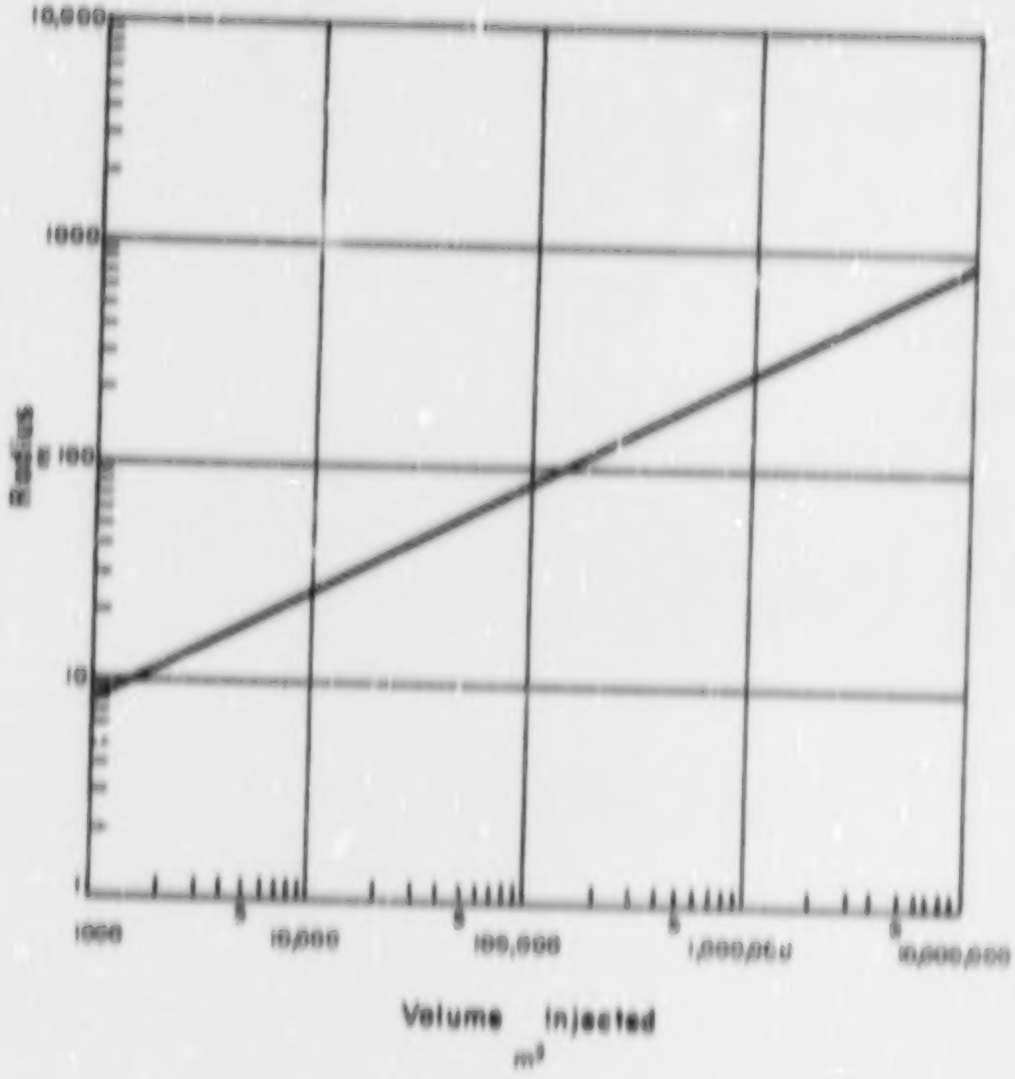


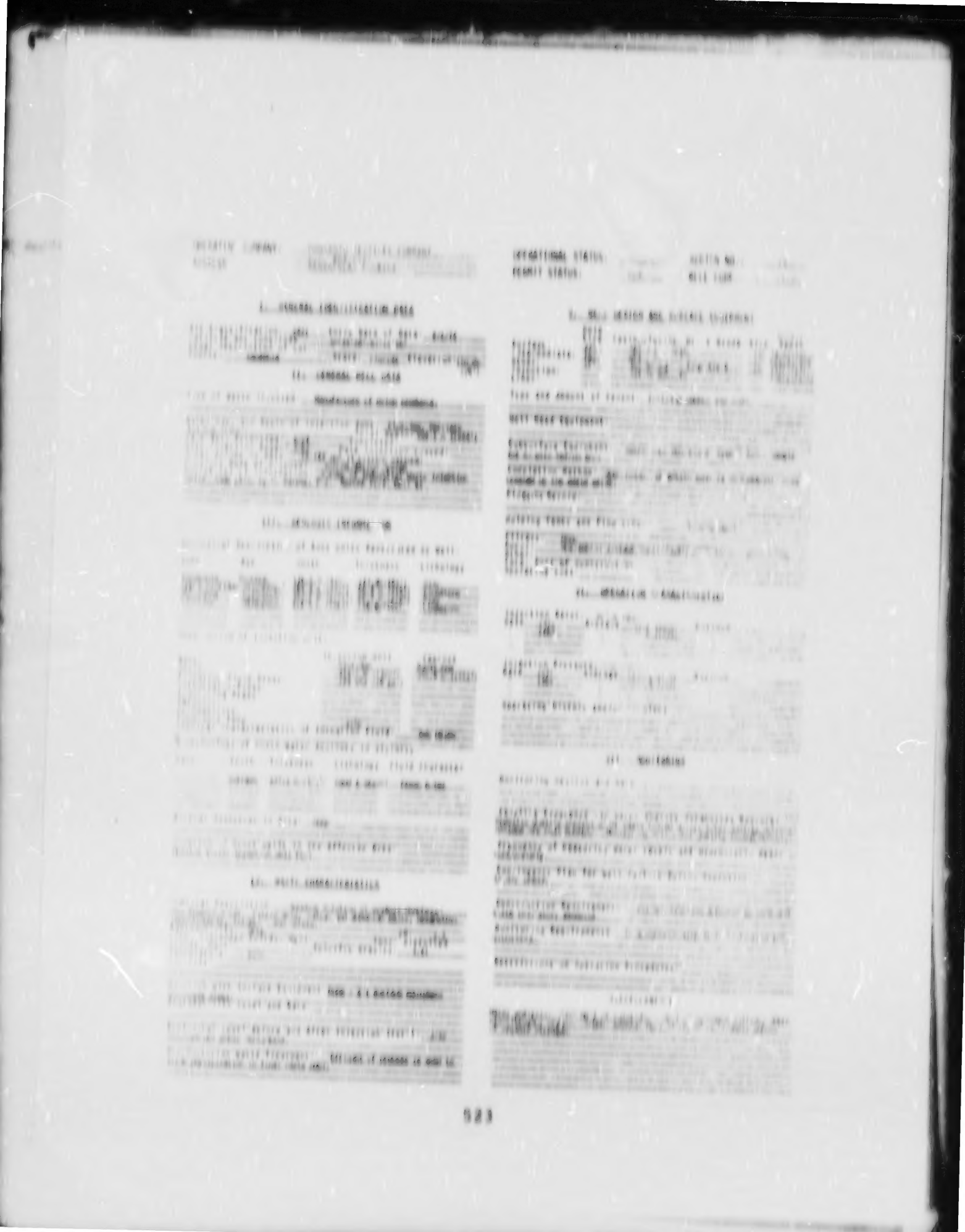
Figure 19. Radius of invasion for well AL-3

[illegible]

[illegible]

[illegible]

[illegible]



OPERATIONAL STATUS: [illegible] REGION NO.: [illegible]

PERMIT STATUS: [illegible] WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

[illegible]

III. GEOLOGIC INFORMATION

Geological Description of Rock Units Penetrated by Well:

Name	Age	Depth	Thickness	Lithology
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Description of Injection Unit

[illegible]

Name	Depth	Thickness	Lithology	Fluid Character
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Mineral Resources in Area: [illegible]

Location of other wells in the affected area

IV. WASTE CHARACTERISTICS

[illegible]

Reaction with Surface Equipment:

Degradability Level and Rate:

[illegible]

Pre-Injection Waste Treatment:

V. WELL DESIGN AND SURFACE EQUIPMENT

	Hole Size	Casing, Tubing, Wt. & Grade	Size	Depth
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Type and Amount of Cement:

Well Head Equipment:

Subsurface Equipment:

Completion Method:

Plugging Record:

[illegible]

VI. OPERATING CHARACTERISTICS

Injection Rate

Date / Average / Maximum

[illegible]

Injection Pressure

Date / Average / Maximum

[illegible]

VII. MONITORING

Monitoring Devices and Data: [illegible]

Sampling Frequency and Water Quality Parameters Measured:

Frequency of Measuring Water Levels and Hydrostatic Heads:

Contingency Plan for Well Failure During Operation: [illegible]

Construction Requirements:

Monitoring Requirements:

Modifications of Operation Procedures:

MISCELLANEOUS

[redacted]

[redacted]

[redacted]

[illegible]

[illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

[illegible]

III. GEOLOGIC INFORMATION

[illegible]

IV. CASING CHARACTERISTICS

[illegible]

V. WELL STATUS AND PURPOSE CODE(S)

[illegible]

VI. OPERATING CHARACTERISTICS

[illegible]

VII. REMARKS

[illegible]

MISCELLANEOUS

[illegible]

OPERATING COMPANY: [illegible]
ADDRESS: [illegible]

OPERATIONAL STATUS: [illegible] REGION NO.: [illegible]
PERMIT STATUS: [illegible] WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

[illegible]

III. GEOLOGIC INFORMATION

Lithologic Description of Rock Units Penetrated by Well:

Name	Age	Depth	Thickness	Lithology
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Description of Injection Unit:

	Injection Unit	Caprock
[illegible]	[illegible]	[illegible]

Name	Depth	Thickness	Lithology	Fluid Character
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[illegible]

Location of other wells in the Affected Area: [illegible]

IV. WASTE CHARACTERISTICS

Chemical Description: [illegible]

[illegible]

Reaction with Surface Equipment: [illegible]

[illegible]

Pre-Injection Waste Treatment: [illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

[illegible]

Type and Amount of Cement: [illegible]

Well Head Equipment: [illegible]

Subsurface Equipment: [illegible]

Completion Method: [illegible]

[illegible]

VI. OPERATING CHARACTERISTICS

Injection Rates: [illegible]

Injection Pressure: [illegible]

Operating History and/or Problems: [illegible]

VII. MONITORING

Monitoring Devices and Data: [illegible]

[illegible]

Contingency Plan for Well Failure During Operation: [illegible]

[illegible]

Restrictions on Operating Procedures: [illegible]

REFERENCES

[illegible]

OPERATING COMPANY: [illegible]
ADDRESS: [illegible]

OPERATIONAL STATUS: [illegible] REGION NO.: [illegible]
PERMIT STATUS: [illegible] WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

Type of Waste Injected: [illegible]

[illegible]

III. GEOLOGIC INFORMATION

Geological Description of Rock Units Penetrated by Well:

Name	Age	Depth	Thickness	Lithology
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Description of Injection Unit:

	Injection Unit	Caprock
[illegible]	[illegible]	[illegible]

Description of Fresh Water Aquifers in Vicinity:

Name	Depth	Thickness	Lithology	Fluid Character
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Mineral Resources in Area: [illegible]

Location of other wells in the affected area: [illegible]

IV. WASTE CHARACTERISTICS

Chemical Description: [illegible]

[illegible]

[illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

[illegible]

Type and Amount of Cement: [illegible]

Well Head Equipment: [illegible]

Subsurface Equipment: [illegible]

Completion Method: [illegible]

Plugging Record: [illegible]

[illegible]

VI. OPERATING CHARACTERISTICS

[illegible]

VII. MONITORING

Monitoring Devices and Data: [illegible]

Sampling Frequency and Water Quality Parameters Measured: [illegible]

Frequency of Monitoring Data: [illegible]

Contingency Plan for Well Failure During Operation: [illegible]

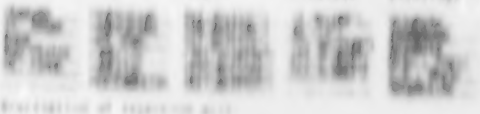
Construction Requirements: [illegible]

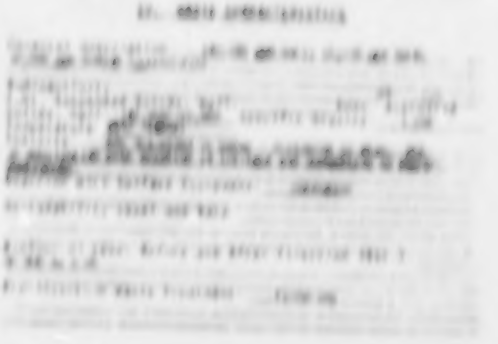
Monitoring Requirements: [illegible]

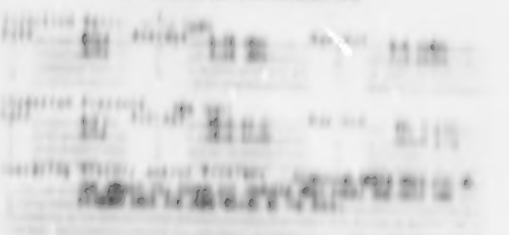
Restrictions on Operating Procedures: [illegible]

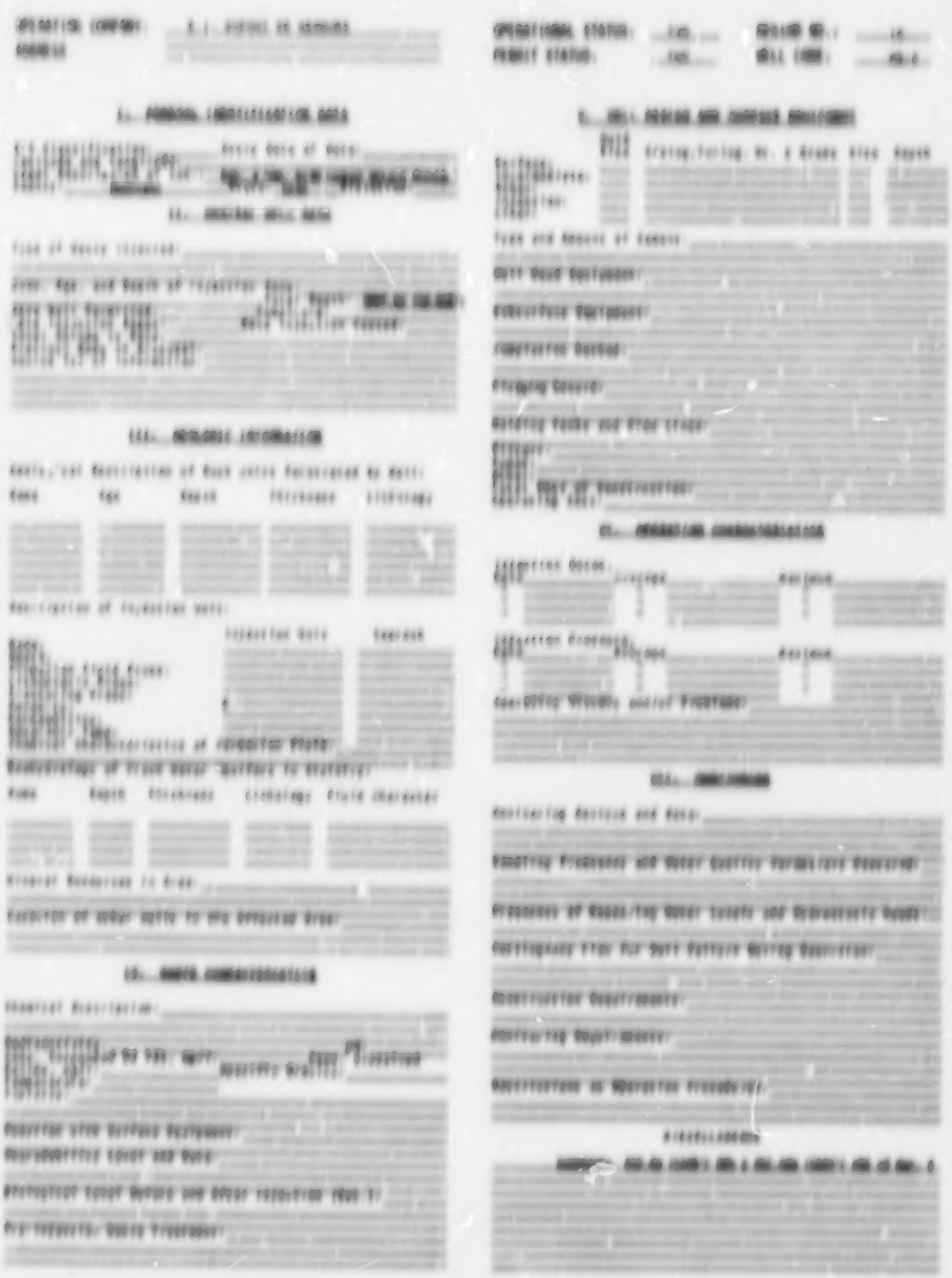
REFERENCES

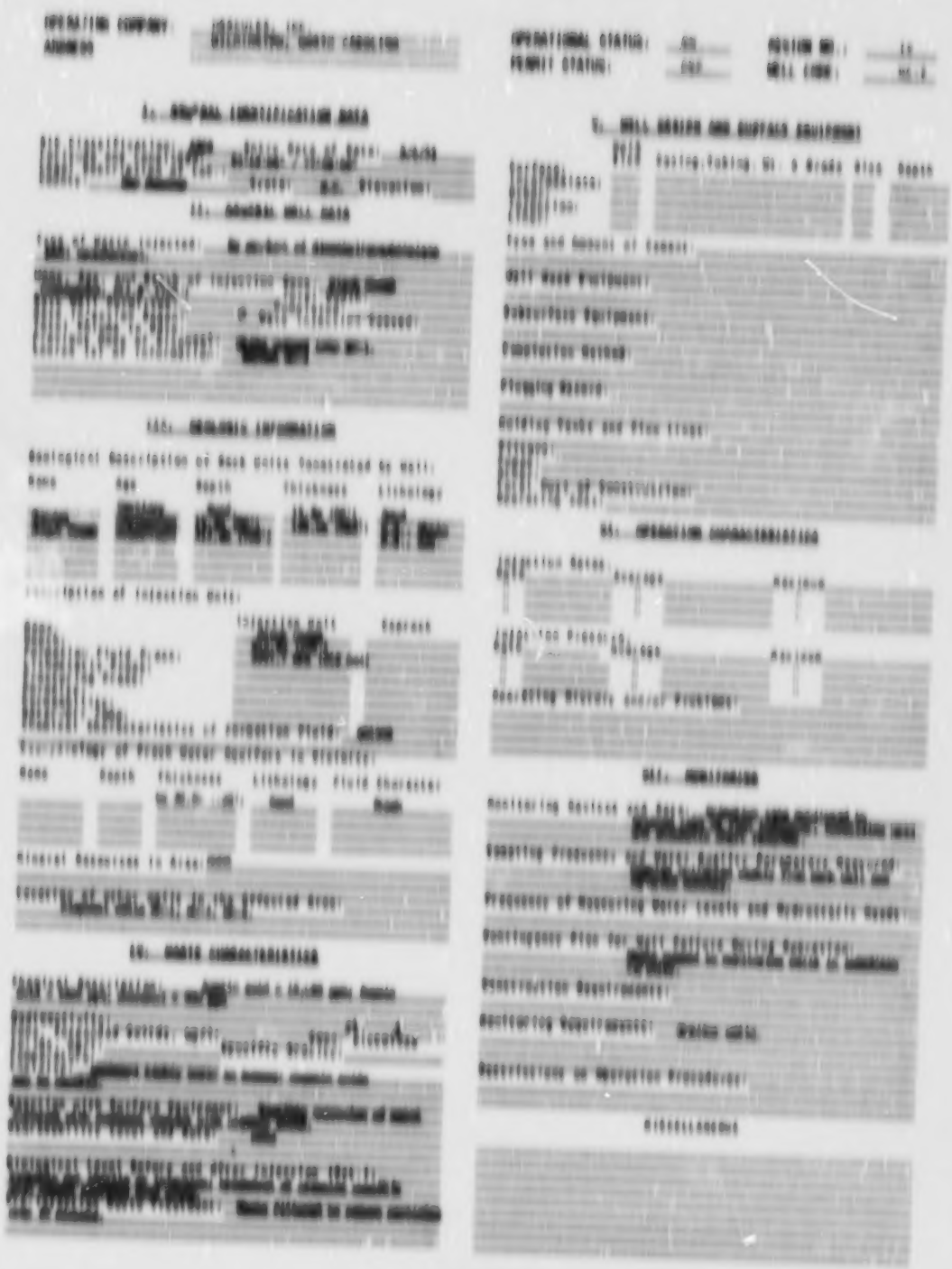
[illegible]











OPERATING COMPANY: [illegible]
ADDRESS: [illegible], NORTH CAROLINA

OPERATIONAL STATUS: [illegible] REGION NO.: [illegible]
PERMIT STATUS: [illegible] WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

[illegible]

III. GEOLOGIC INFORMATION

Geological Description of Rock Units Penetrated by Well:

Name	Age	Depth	Thickness	Lithology
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Description of Injection Unit:

[illegible]

Mineral Resources in Area: [illegible]

Location of other wells in the affected area: [illegible]

IV. WASTE CHARACTERISTICS

[illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

Casing/Tubing; Wt. & Grade; Size; Depth

[illegible]

Type and Amount of Cement:

Well Head Equipment:

Subsurface Equipment:

Completion Method:

Plugging Record:

Holding Tanks and Flow Lines:

[illegible]

VI. OPERATING CHARACTERISTICS

Injection Rates: Average: Maximum:

[illegible]

Injection Pressure: Average: Maximum:

[illegible]

Operating History and/or Problems:

[illegible]

VII. MONITORING

Monitoring Devices and Data: [illegible]

Sampling Frequency and Water Quality Parameters Measured: [illegible]

Frequency of Measuring Water Levels and Hydrostatic Heads:

Contingency Plan for Well Failure During Operation: [illegible]

Construction Requirements:

Monitoring Requirements: [illegible]

Restrictions on Operation Procedures:

MISCELLANEOUS

[illegible]

[redacted]

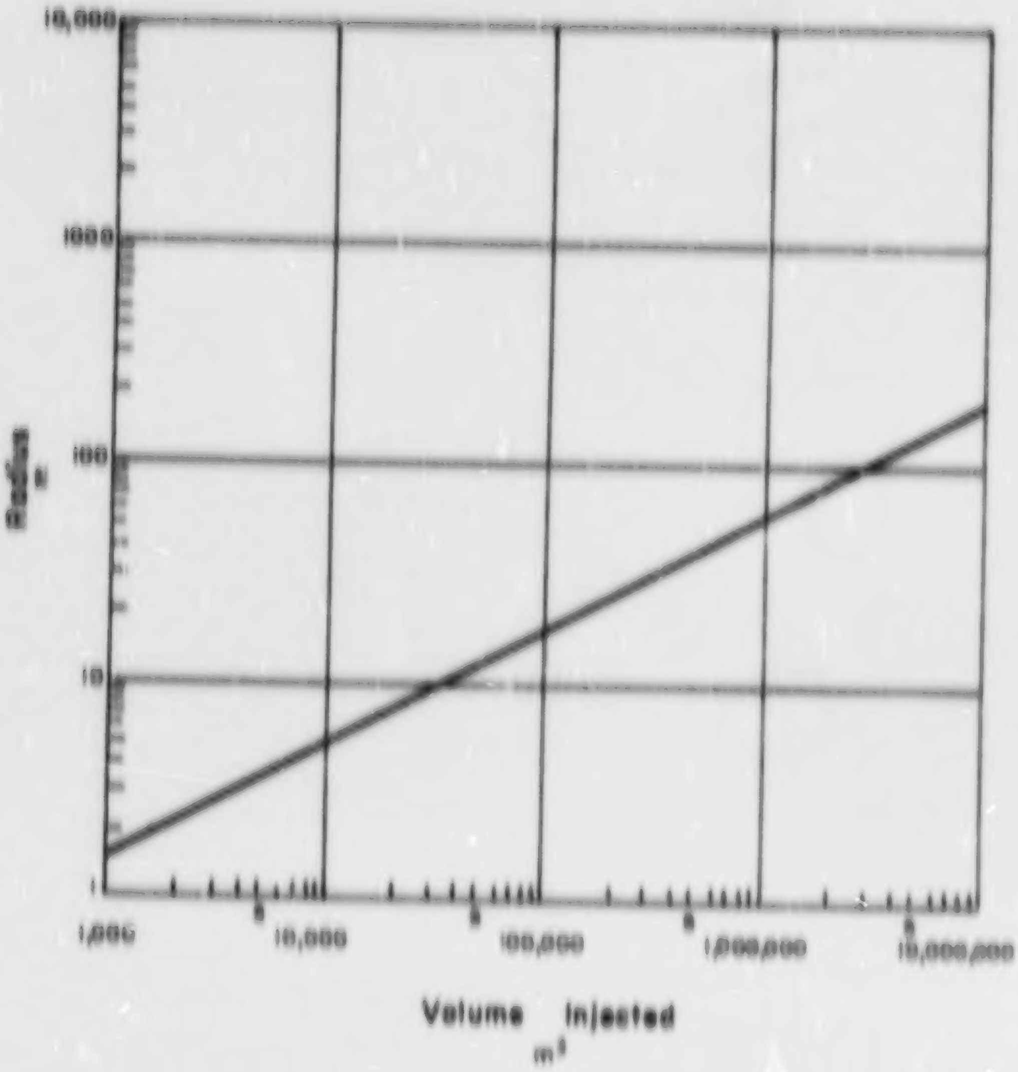


Figure 20. Radius of invasion for well TN-2

[illegible] COMPANY: [illegible]

[illegible]: [illegible]

OPERATIONAL STATUS: [illegible] REGION NO.: [illegible]

PERMIT STATUS: [illegible] WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

[illegible]

III. GEOLOGIC INFORMATION

[illegible]

IV. WASTE CHARACTERISTICS

[illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

[illegible]

Well Head Equipment: [illegible]

Subsurface Equipment: [illegible]

[illegible]

VI. OPERATING CHARACTERISTICS

Injection Rates: [illegible]

Injection Pressure: [illegible]

Operating History: [illegible]

VII. MONITORING

Monitoring Devices and Data: [illegible]

Sampling Frequency and Water Quality Parameters Measured: [illegible]

Frequency of Measuring Water Levels and Hydrostatic Heads: [illegible]

Contingency Plan for Well Failure: [illegible]

[illegible]

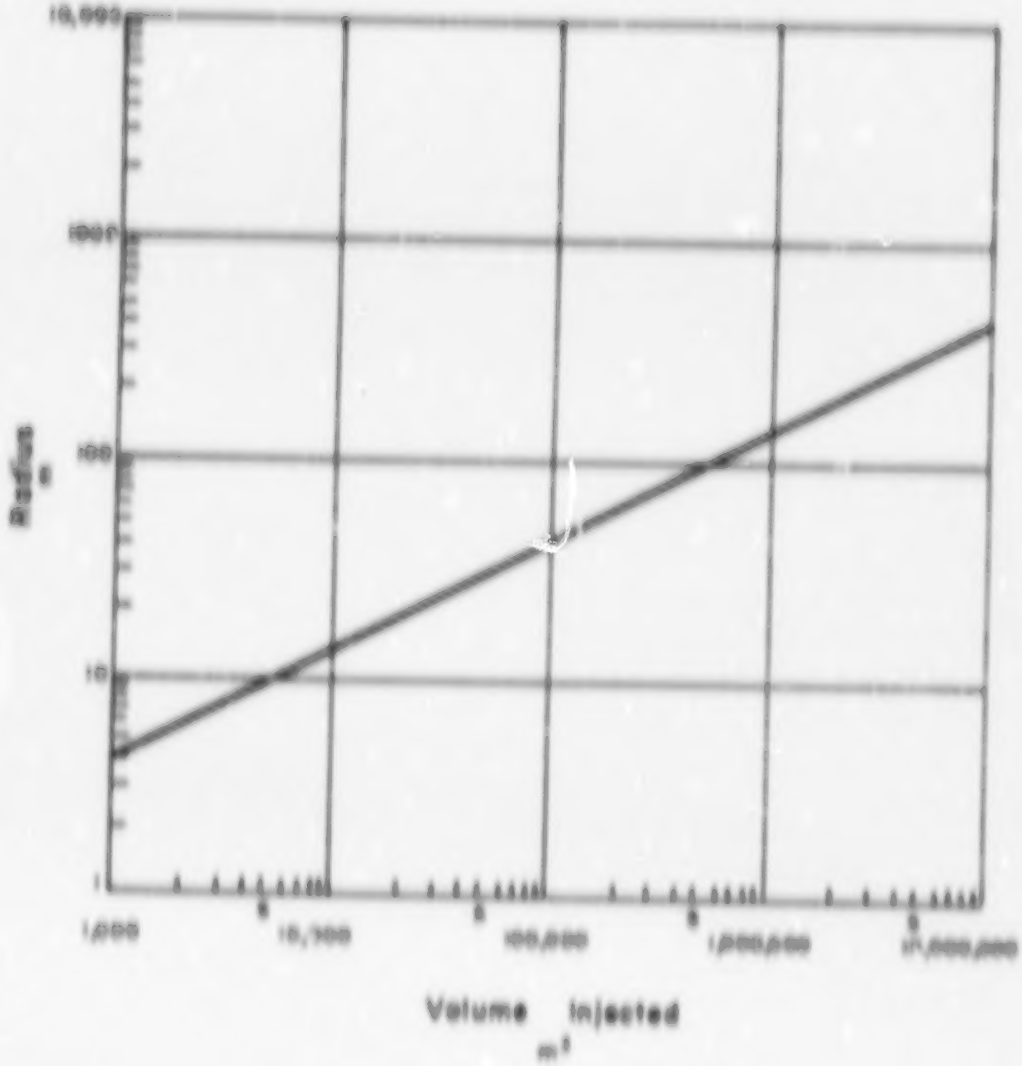


Figure 21. Radius of invasion for well IL-2

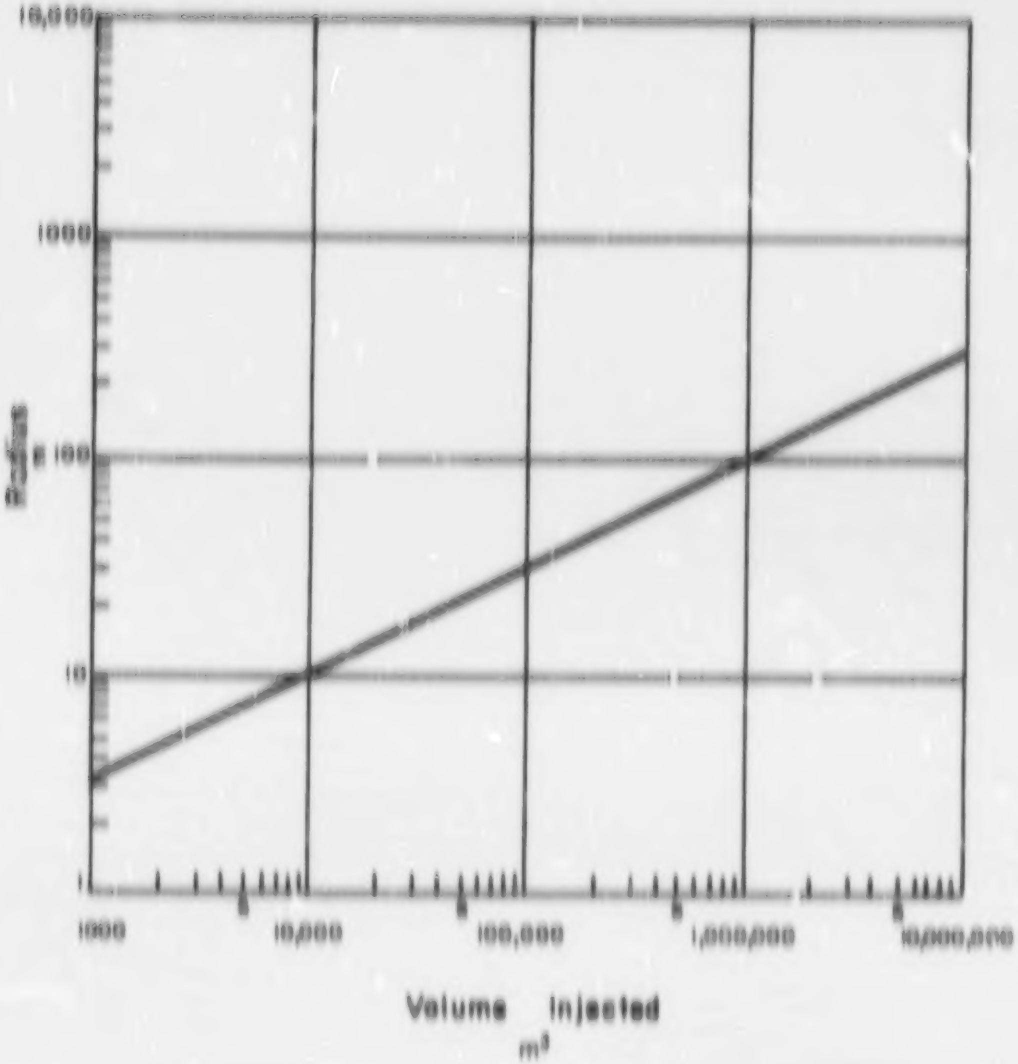


Figure 22. Radius of invasion for well IL-5

[illegible]

[redacted]

OPERATING COMPANY: [illegible]
ADDRESS: [illegible]

OPERATIONAL STATUS: [illegible] REGION NO.: [illegible]
PERMIT STATUS: [illegible] WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

[illegible]

III. GEOLOGIC INFORMATION

[illegible]

IV. WASTE CHARACTERISTICS

[illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

[illegible]

Type and Details of [illegible]

Well Head Equipment: [illegible]

Subsurface Equipment: [illegible]

[illegible]

VI. OPERATION [illegible]

[illegible]

VII. [illegible]

[illegible]

REFERENCES

[illegible]

OPERATING COMPANY:
ADDRESS

OPERATIONAL STATUS:
REGION NO.:
PERMIT STATUS:
WELL CODE:

I. GENERAL IDENTIFICATION DATA

II. GENERAL WELL DATA

III. GEOLOGIC INFORMATION

Description of Injection Unit:

IV. WASTE CHARACTERISTICS

V. WELL DESIGN AND SURFACE EQUIPMENT

Type and Amount of Cement:

Well Head Equipment:

Subsurface Equipment:

Plugging Record:

VI. OPERATING CHARACTERISTICS

VII. MONITORING

REFERENCES

OPERATING COMPANY: [illegible]
ADDRESS: [illegible]

OPERATIONAL STATUS: [illegible] PERMIT STATUS: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

Type of Waste Injected: [illegible]

Name, Age, and Depth of Injection Zone: [illegible]

III. GEOLOGIC INFORMATION

Geological Description of Rock Units Penetrated by Well:

Name	Age	Depth	Thickness	Lithology
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Description of Injection Unit:

	Injection Unit	Caprock
[illegible]	[illegible]	[illegible]

Chemical Characteristics of Injected Fluid: [illegible]

Overlying and Underlying Fresh Water Aquifers in Vicinity:

Name	Depth	Thickness	Lithology	Fluid Character
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Mineral Resources in Area: [illegible]

Location of other wells in the affected area: [illegible]

IV. WASTE CHARACTERISTICS

[illegible]

Reaction with Surface Equipment: [illegible]

Degradability Level and Rate: [illegible]

Biological Level Before and After Injection: [illegible]

Pre-Injection Waste Treatment: [illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

[illegible]

Type and Amount of Cement: [illegible]

Well Head Equipment: [illegible]

Downhole Equipment: [illegible]

Completion Method: [illegible]

Plugging Record: [illegible]

Holding Tanks and Flow Lines: [illegible]

Total Cost of Construction: [illegible]

VI. OPERATING CHARACTERISTICS

Injection Rates: [illegible]

Injection Pressure: [illegible]

Operating History and/or Problems: [illegible]

VII. MONITORING

Monitoring Devices and Data: [illegible]

Sampling Frequency and Water Quality Parameters Measured: [illegible]

Frequency of Measuring Water Levels and Hydrostatic Heads: [illegible]

Contingency Plan for Well Failure During Operation: [illegible]

Construction Requirements: [illegible]

Monitoring Requirements: [illegible]

Restrictions on Operating Procedures: [illegible]

VIII. REFERENCES

[illegible]

OPERATING COMPANY: [illegible]
ADDRESS: [illegible]

OPERATIONAL STATUS: [illegible] REGION NO.: [illegible]
PERMIT STATUS: [illegible] WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

Type of Waste Injected: [illegible]

[illegible]

III. GEOLOGIC INFORMATION

Geological Description of Rock Units Penetrated by Well:

Name	Age	Depth	Thickness	Lithology
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Description of Injection Unit:

[illegible]

Mineral Resources in Area: [illegible]

Location of other wells in the Affected Area: [illegible]

IV. WASTE CHARACTERISTICS

Chemical Description: [illegible]

[illegible]

Pre-Injection Waste Treatment: [illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

[illegible]

Type and Amount of Cement: [illegible]

Well Head Equipment: [illegible]

Subsurface Equipment: [illegible]

Completion Method: [illegible]

Holding Tanks and Flow Lines: [illegible]

[illegible]

VI. OPERATING CHARACTERISTICS

Injection Rates: [illegible]

Injection Pressure: [illegible]

Operating History, Unusual Problems: [illegible]

VII. MONITORING

Monitoring Devices and Data: [illegible]

Sampling Frequency and Water Quality Parameters Measured: [illegible]

Frequency of Measuring Water Levels and Hydrostatic Heads: [illegible]

Contingency Plan for Well Failure During Operation: [illegible]

[illegible] Requirements: [illegible]

Monitoring Requirements: [illegible]

[illegible]

REFERENCES

[illegible]

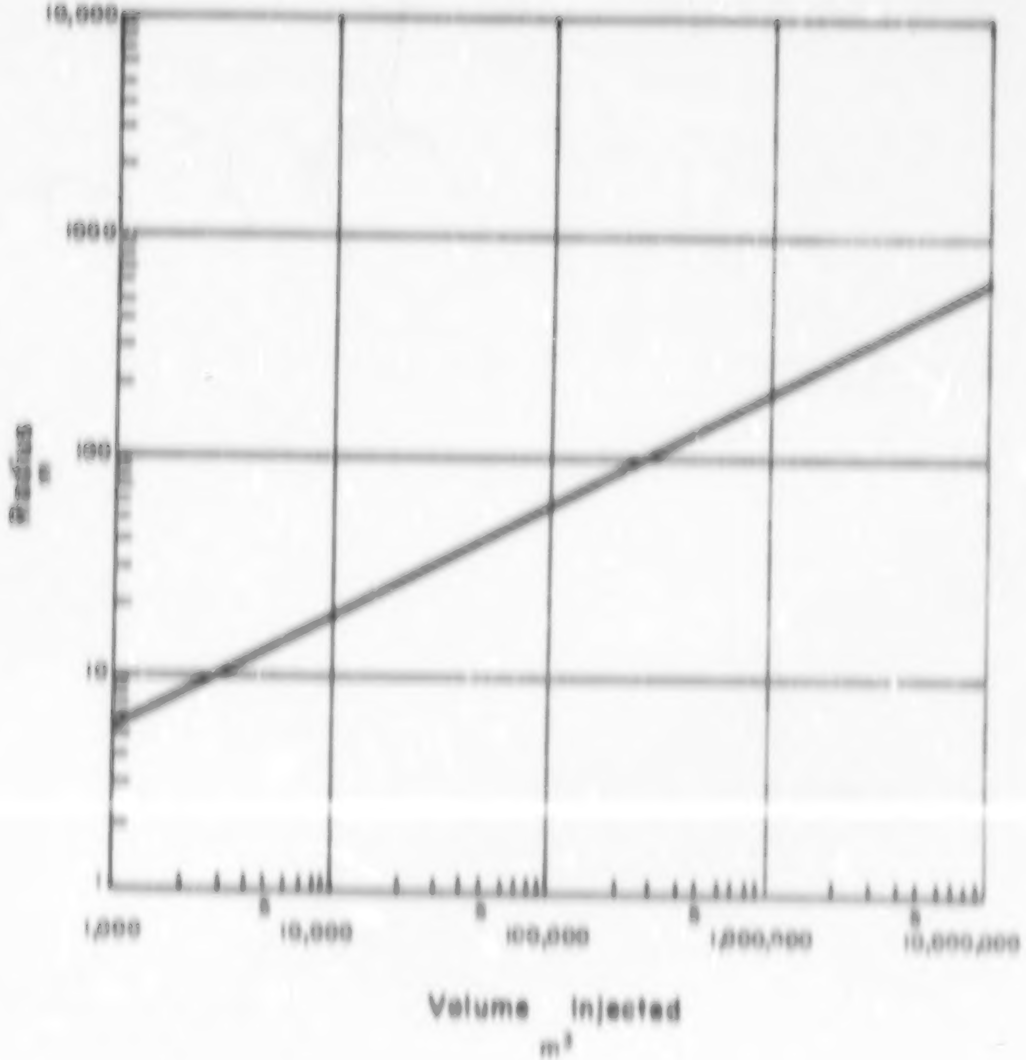


Figure 23 Radius of invasion for well IN-3

OPERATING COMPANY: [illegible]
ADDRESS: [illegible]

OPERATIONAL STATUS: [illegible] REGION NO.: [illegible]
PERMIT STATUS: [illegible] WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

[illegible]

III. GEOLOGIC INFORMATION

Geological Description of Rock Units Penetrated by Well:

[illegible]

IV. WASTE CHARACTERISTICS

[illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

[illegible]

Type and Amount of Cement: [illegible]

Well Head Equipment: [illegible]

Subsurface Equipment: [illegible]

[illegible]

VI. OPERATION CHARACTERISTICS

[illegible]

VII. PROBLEMS

[illegible]

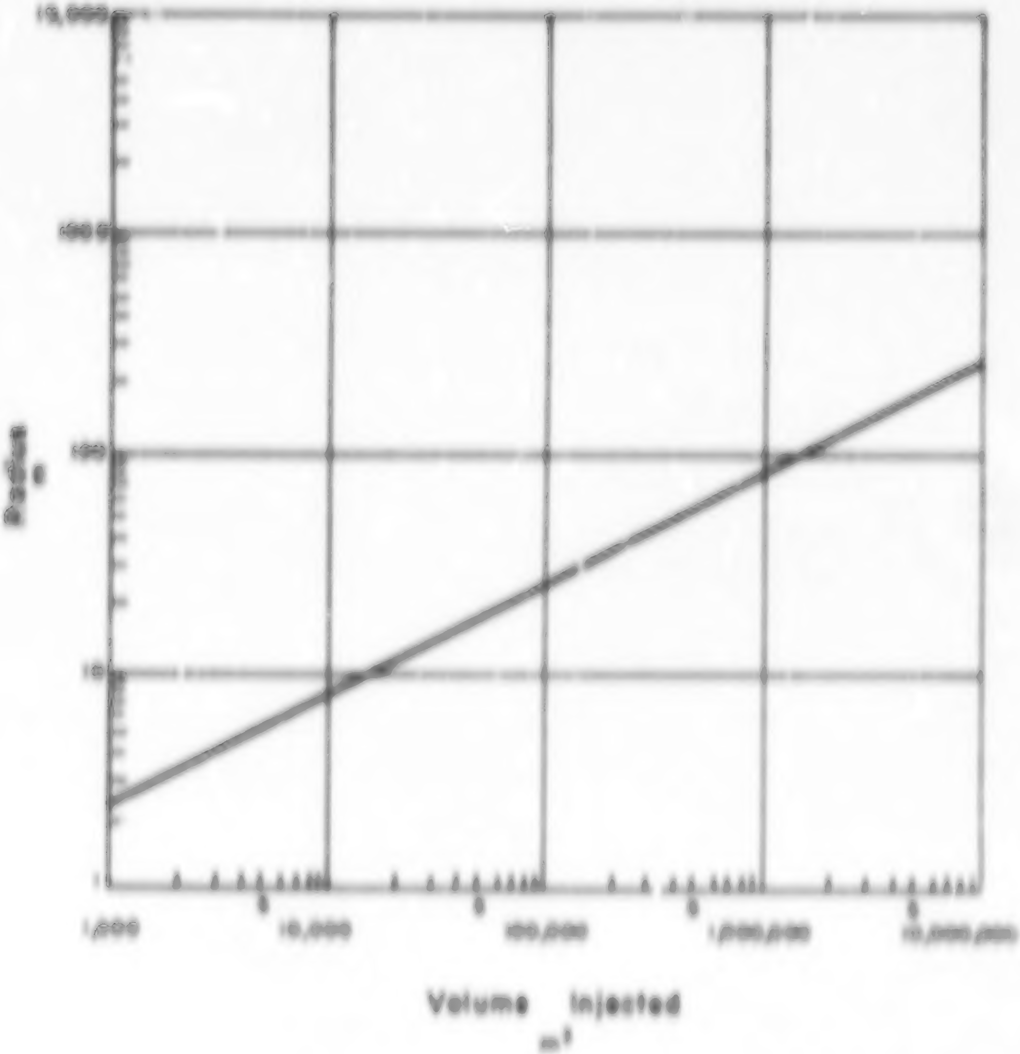


Figure 24 Radius of invasion for well IN-5

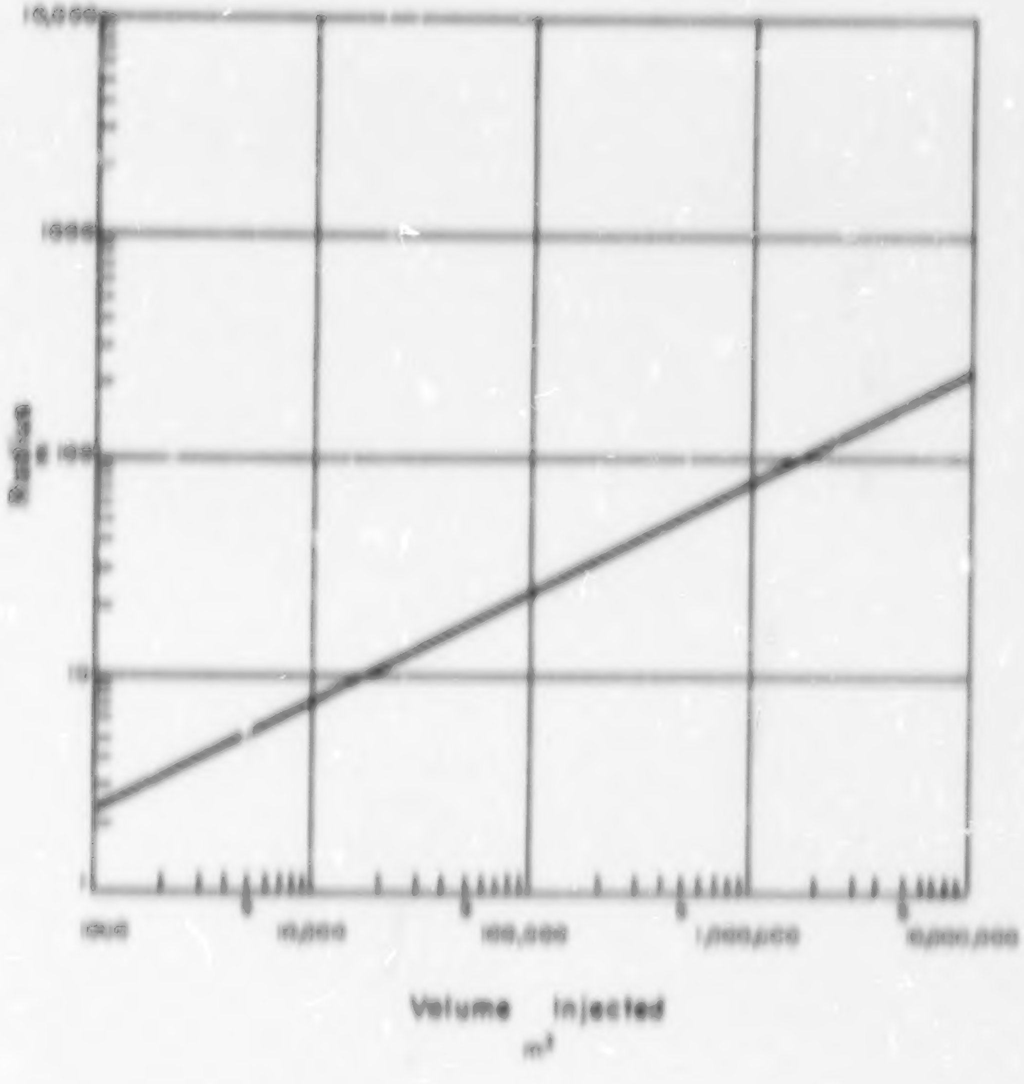


Figure 25 Radius of invasion for well IN-6

OPERATING COMPANY: [illegible]
ADDRESS [illegible]

OPERATIONAL STATUS: [illegible] REGION NO.: [illegible]
PERMIT STATUS: [illegible] WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

Type of Waste Injected: [illegible]

[illegible]

III. GEOLOGIC INFORMATION

Geological Description of Rock Units Penetrated by Well:

[illegible]

Description of Injection Unit:

[illegible]

IV. WASTE CHARACTERISTICS

[illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

[illegible]

Type and Amount of Cement: [illegible]

Well Head Equipment: [illegible]

Subsurface Equipment: [illegible]

Plugging Record: [illegible]

VI. OPERATING CHARACTERISTICS

Injection Rates: [illegible]

Injection Pressure: [illegible]

VII. MONITORING

Monitoring Devices and Data: [illegible]

Sampling Frequency and Water Quality Parameters Measured: [illegible]

Frequency of Measuring Water Levels and Hydrostatic Heads: [illegible]

Contingency Plan for Well Failure During Operation: [illegible]

Construction Requirements: [illegible]

Monitoring Requirements: [illegible]

Modifications on Operation Procedures: [illegible]

MISCELLANEOUS

[illegible]

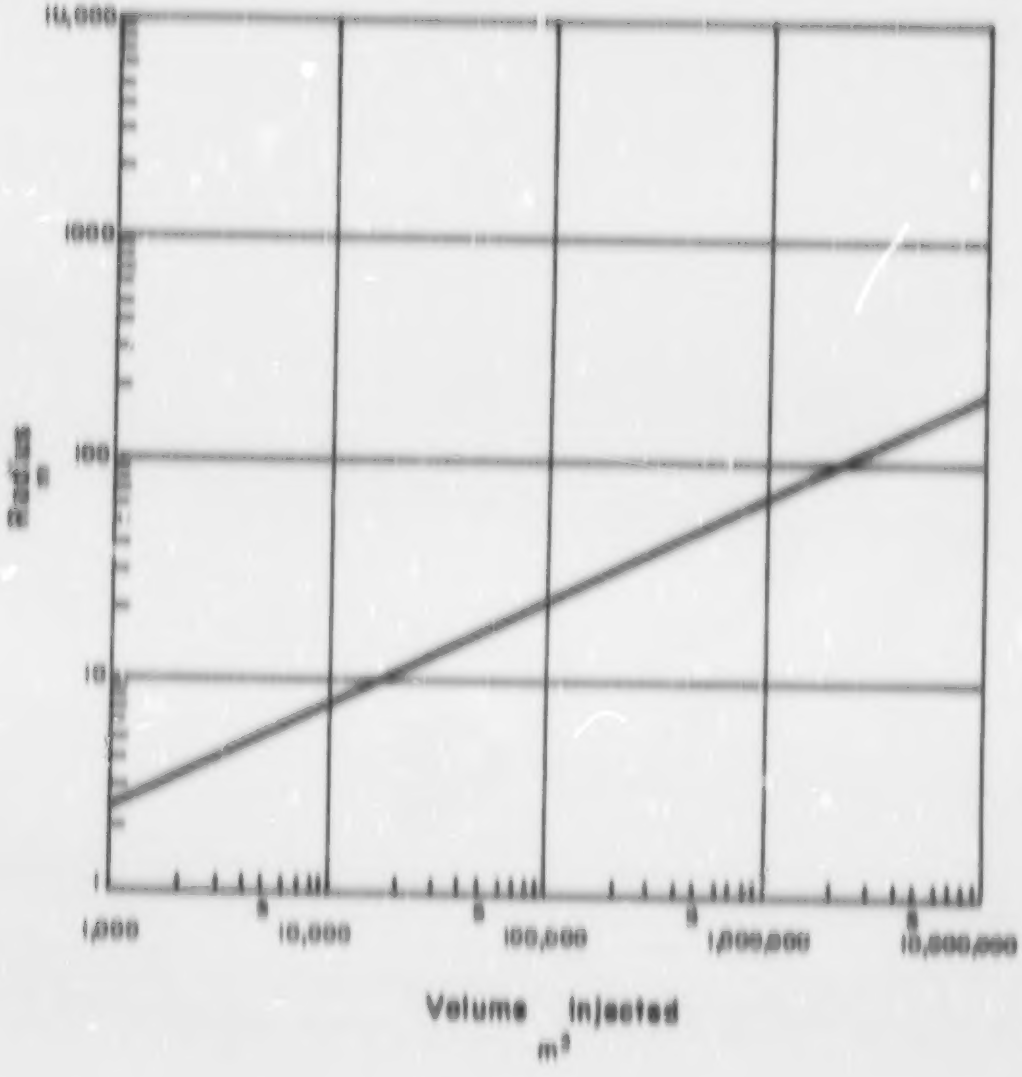


Figure 26 Radius of invasion for well IN-7

OPERATING COMPANY: [illegible]
ADDRESS: [illegible]

OPERATIONAL STATUS: [illegible] REGION NO.: [illegible]
PERMIT STATUS: [illegible] WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

Type of Waste Injected: [illegible]

Name, Age, and Depth of Injection Zone: [illegible]

[illegible]

III. GEOLOGIC INFORMATION

Geological Description of Rock Units Penetrated by Well:

Name	Age	Depth	Thickness	Lithology
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Description of Injection Unit:

[illegible]

Characteristics of Fresh Water Aquifers in Vicinity:

Name	Depth	Thickness	Lithology	Fluid Character
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Mineral Resources in Area: [illegible]

Location of other wells in the Affected Area: [illegible]

IV. WASTE CHARACTERISTICS

[illegible]

Reaction with Surface Equipment: [illegible]

Degradability Level and Rate: [illegible]

Biological Level Before and After Injection Test: [illegible]

Pre-Injection Waste Treatment: [illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

[illegible]

Type and Amount of Cement: [illegible]

Well Head Equipment: [illegible]

Subsurface Equipment: [illegible]

Completion Method: [illegible]

Plugging Record: [illegible]

Holding Tanks and Flow Lines: [illegible]

[illegible]

VI. OPERATION CHARACTERISTICS

Injection Rates: [illegible]

Injection Pressure: [illegible]

[illegible]

VII. MONITORING

Monitoring Devices and Data: [illegible]

Sampling Frequency and Water Quality Parameters Measured: [illegible]

Frequency of Reporting Water Levels and Hydrostatic Head: [illegible]

Contingency Plan for Well Failure During Operation: [illegible]

Construction Requirements: [illegible]

Monitoring Requirements: [illegible]

Restrictions on Operation Procedures: [illegible]

MISCELLANEOUS

[illegible]

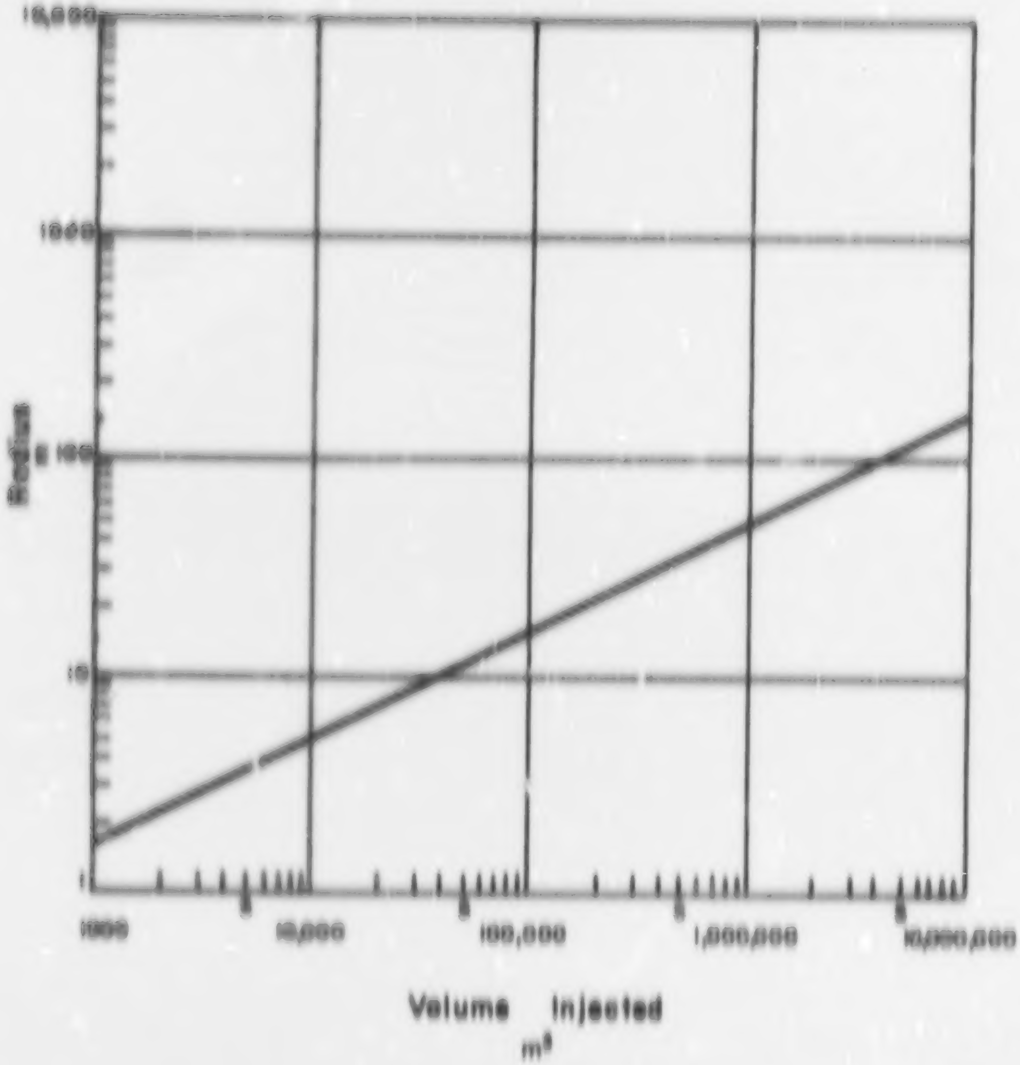


Figure 27 Radius of invasion for well IN-8

OPERATING COMPANY: [illegible]
ADDRESS [illegible]

OPERATIONAL STATUS: [illegible] REGION NO.: [illegible]
PERMIT STATUS [illegible] WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

Type of Waste Injected: [illegible]

[illegible]

III. GEOLOGIC INFORMATION

Geological Description of Rock Units Penetrated by Well:

Name	Age	Depth	Thickness	Lithology
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Description of Injection Unit:

[illegible]

Name	Depth	Thickness	Lithology	Fluid Character
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[illegible]

IV. WASTE CHARACTERISTICS

[illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

[illegible]

Type and Amount of Cement: [illegible]

Well Head Equipment:

Subsurface Equipment:

Completion Method: [illegible]

Plugging Record:

Holding Tanks and Flow Lines:

[illegible]

VI. OPERATING CHARACTERISTICS

Injection Rates: [illegible]

Injection Pressure: [illegible]

[illegible]

VII. MONITORING

Monitoring Devices and Data:

Sampling Frequency and Water Quality Parameters Measured:

Frequency of Measuring Water Levels and Hydrostatic Heads:

Contingency Plan for Well Failure During Operation:

Construction Requirements:

Monitoring Requirements:

Restrictions on Operation Procedures:

MISCELLANEOUS

[illegible]

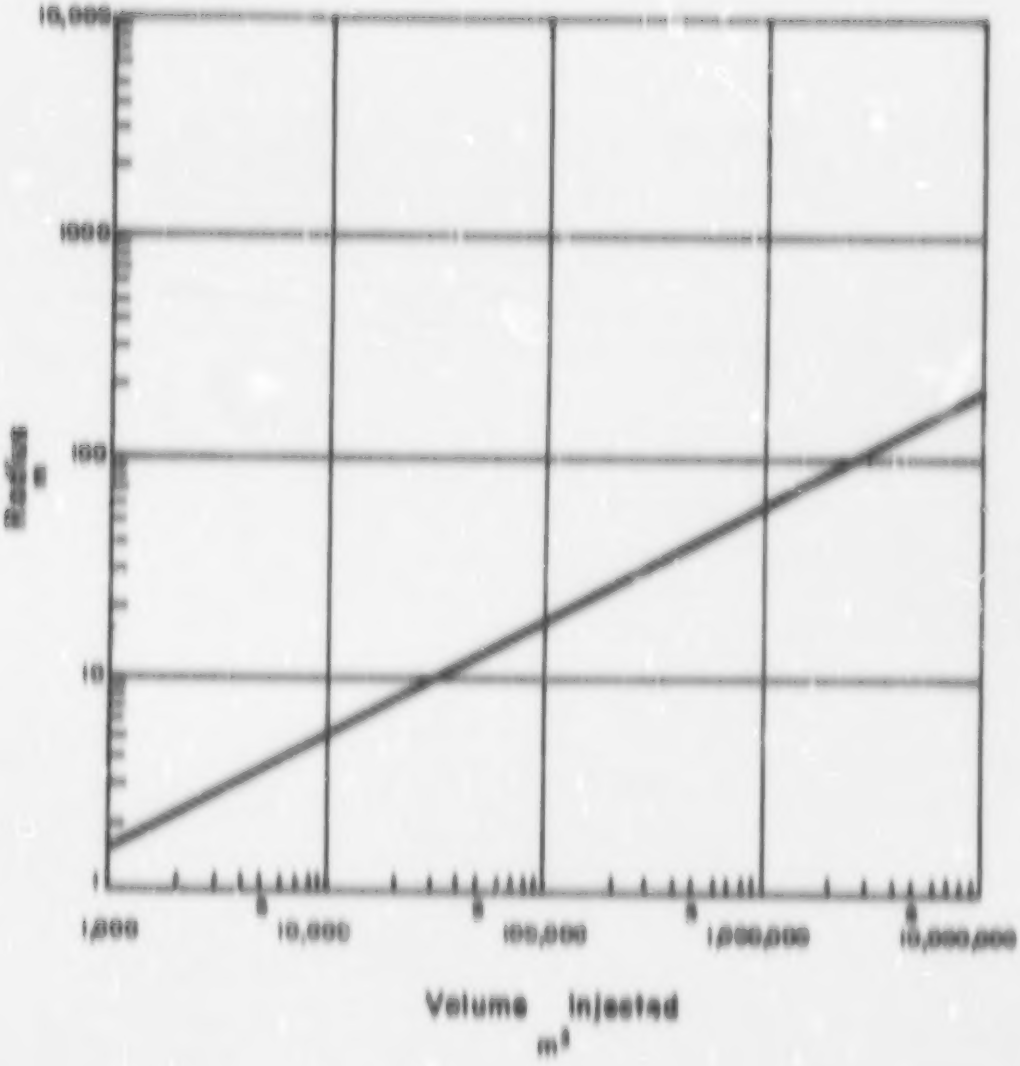


Figure 26 Radius of invasion for well IN-9

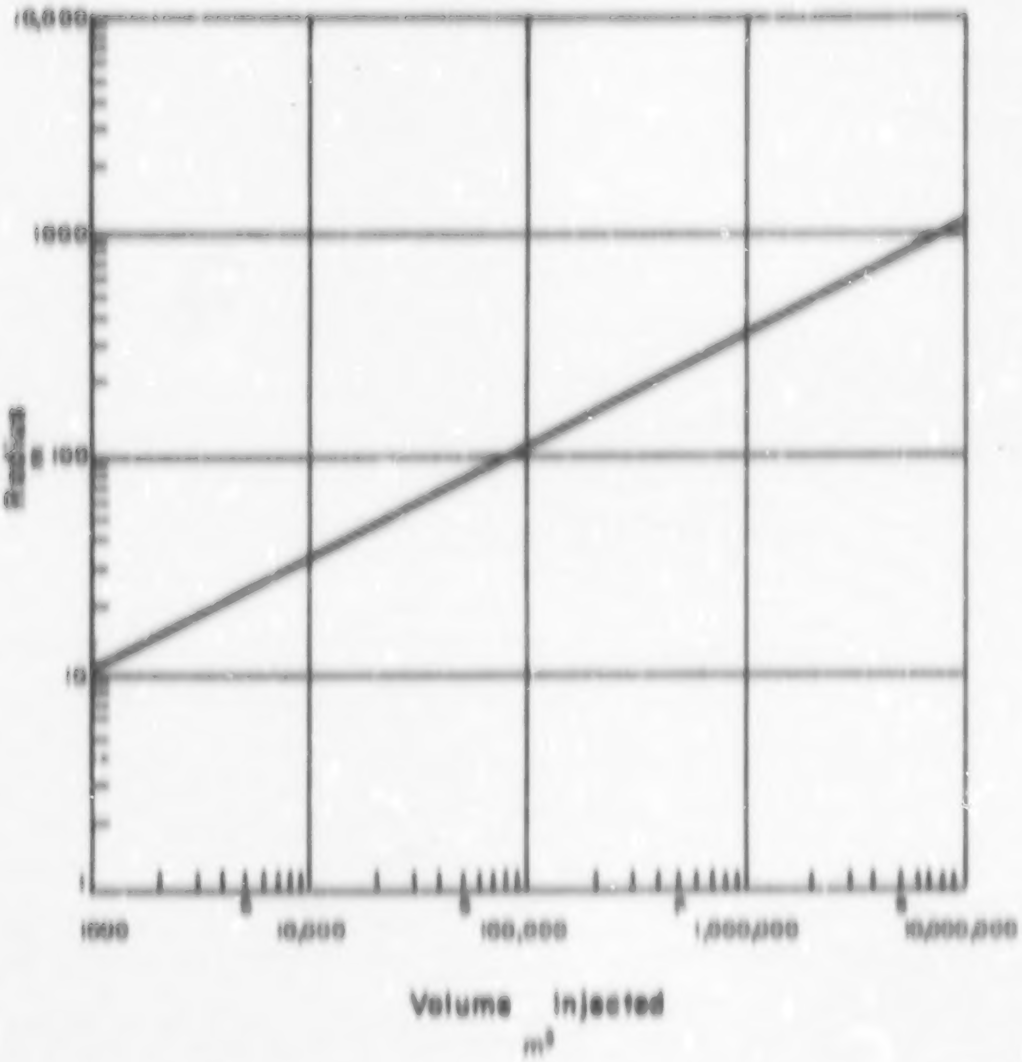


Figure 29 Radius of invasion for well IN-10

OPERATING COMPANY: [illegible]
ADDRESS: [illegible]

OPERATIONAL STATUS: [illegible] PERMIT STATUS: [illegible] WELL TYPE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

Type of Waste Injected: [illegible]

[illegible]

III. GEOLOGIC INFORMATION

[illegible]

IV. WASTE CHARACTERISTICS

[illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

[illegible]

Type and Amount of Cement: [illegible]

Well Head Equipment: [illegible]

Subsurface Equipment: [illegible]

[illegible]

VI. OPERATING CHARACTERISTICS

[illegible]

Operating History and/or Problems: [illegible]

VII. MONITORING

Monitoring Devices and Data: [illegible]

Sampling Frequency and Water Quality Parameters Measured: [illegible]

Frequency of Measuring Water Levels and Hydrostatic Heads: [illegible]

Contingency Plan for Well Failure During Operation: [illegible]

Construction Requirements: [illegible]

Monitoring Requirements: [illegible]

Modifications in Operating Procedures: [illegible]

MISCELLANEOUS

[illegible]

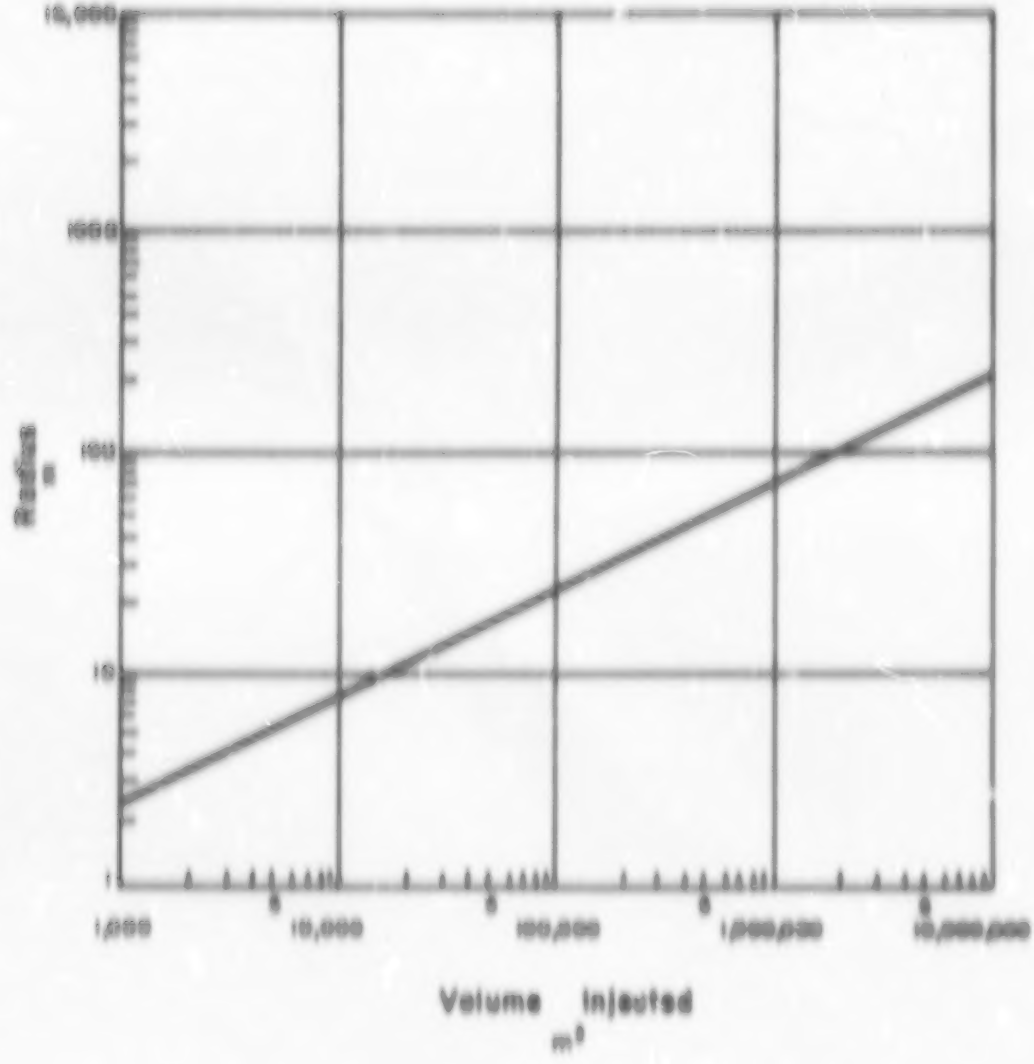
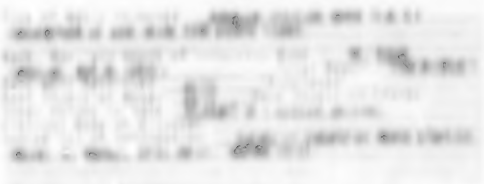
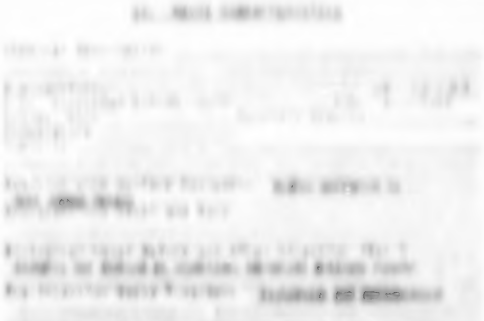
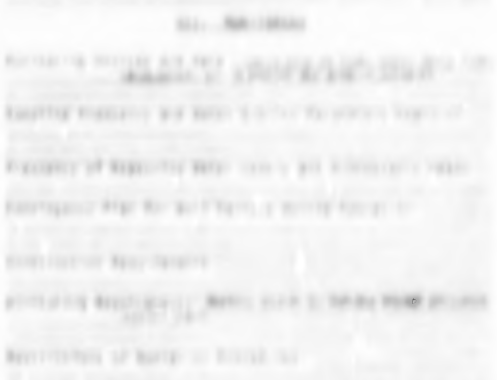


Figure 50 Radius of invasion for well IN-II







OPERATING COMPANY [illegible]
ADDRESS [illegible]

OPERATIONAL STATUS [illegible] STATE ID NO. [illegible]
PERMIT STATUS [illegible] WELL LOC. [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

[illegible]

III. GEOLOGIC INFORMATION

Geological Description of Rock Units Penetrated by Well

[illegible]

Description of Injection Unit

[illegible]

IV. WASTE CHARACTERISTICS

[illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

[illegible]

VI. OPERATION CHARACTERISTICS

[illegible]

VII. MONITORING

[illegible]

Sampling Frequency and Water Quality Parameters Measured [illegible]

Frequency of Reporting Water Quality and Monitoring Data [illegible]

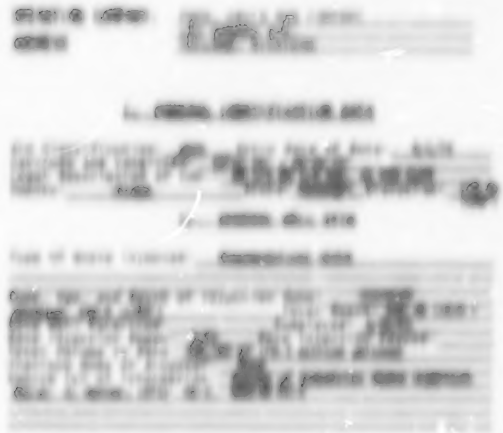
Contingency Plan for Well Failure or Shutdown [illegible]

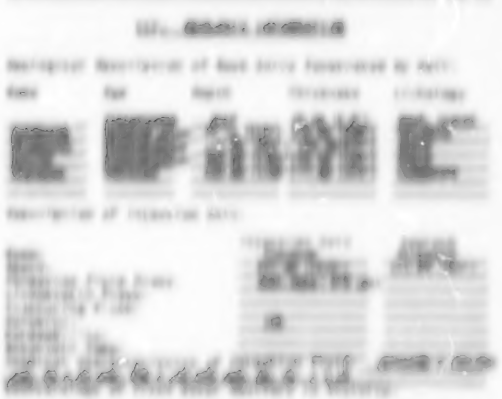
[illegible]

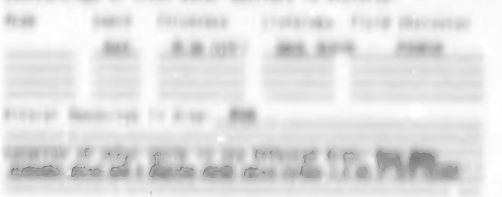
[illegible]

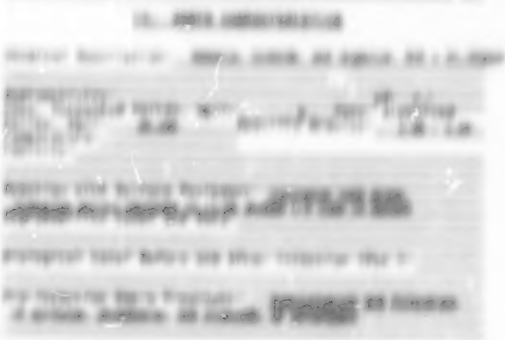
[illegible]

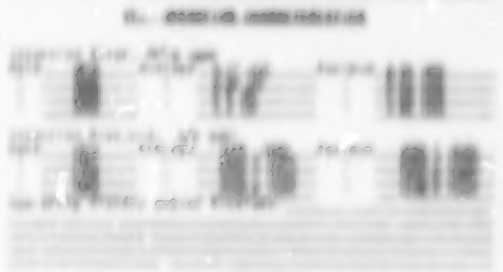
[illegible]

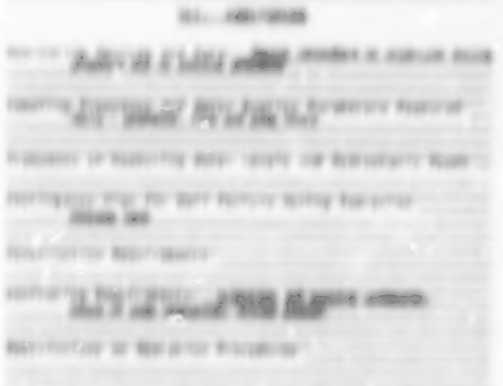












OPERATOR: [illegible] OPERATIONAL STATUS: [illegible] SECTION NO.: [illegible]
ADDRESS: [illegible] PERMIT STATUS: [illegible] WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

Type of Waste Injected: [illegible]

[illegible]

III. GEOLOGIC INFORMATION

Geological Description of Rock Units Penetrated by Well:

[illegible]

Description of Injection Unit

[illegible]

Mineral Resources in Area: [illegible]

Location of Other Wells in the Affected Area: [illegible]

IV. WASTE CHARACTERISTICS

Chemical Description: [illegible]

Reaction with Surface Equipment: [illegible]

Pre-Injection Waste Treatment: [illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

[illegible]

Type and Results of Tests: [illegible]

Well Head Equipment: [illegible]

Subsurface Equipment: [illegible]

Completion Method: [illegible]

Plugging Record: [illegible]

Holding Tanks and Flow Lines: [illegible]

[illegible]

VI. OPERATING CHARACTERISTICS

[illegible]

Operating History and/or Problems: [illegible]

VII. MONITORING

Monitoring Devices and Data: [illegible]

Sampling Frequency and Water Quality Parameters Measured: [illegible]

Frequency of Measuring Water Levels and Hydrostatic Heads: [illegible]

Contingency Plan for Well Failure During Operation: [illegible]

Abandonment Requirements: [illegible]

Monitoring Requirements: [illegible]

Specifications on Operating Procedures: [illegible]

MISCELLANEOUS

[illegible]

[redacted]

OPERATING COMPANY: [illegible]
ADDRESS: [illegible]

OPERATIONAL STATUS: [illegible] REGION: [illegible]
PERMIT STATUS: [illegible] WELL TYPE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

Type of Waste Injected: [illegible]

Name, Age, and Depth of Injection Zone: [illegible]

[illegible]

III. GEOLOGIC INFORMATION

Geological Description of Rock Units Penetrated by Well:

Name	Age	Depth	Thickness	Lithology
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Description of Injection Unit:

	Injection Unit	Confining
[illegible]	[illegible]	[illegible]

Chemical Characteristics of Formation Fluid: [illegible]

Geohydrology of Fresh Water Aquifers in Vicinity:

Name	Depth	Thickness	Lithology	Fluid Character
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Mineral Resources in Area: [illegible]

Location of other wells in the Affected Area: [illegible]

IV. WASTE CHARACTERISTICS

Chemical Description: [illegible]

[illegible]

Reaction with Surface Equipment: [illegible]

Degradability Level and Rate: [illegible]

Biological Level Before and After Injection (Est.): [illegible]

Pre-injection Waste Treatment: [illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

[illegible]

Type and Amount of Cement: [illegible]

Well Head Equipment: [illegible]

Subsurface Equipment: [illegible]

Completion Method: [illegible]

Plugging Record: [illegible]

Holding Tanks and Flow Lines: [illegible]

[illegible]

VI. OPERATING CHARACTERISTICS

Injection Rates: [illegible]

Injection Pressure: [illegible]

Operating History and/or Problems: [illegible]

VII. MONITORING

Monitoring Devices and Data: [illegible]

Sampling Frequency and Water Quality Parameters Measured: [illegible]

Frequency of Measuring Water Levels and Hydrostatic Heads: [illegible]

Contingency Plan for Well Failure During Operation: [illegible]

Abandonment Requirements: [illegible]

Monitoring Requirements: [illegible]

Restrictions on Operating Procedures: [illegible]

MISCELLANEOUS

[illegible]

OPERATING COMPANY: [illegible]
ADDRESS [illegible]

OPERATIONAL STATUS: [illegible] REGION NO.: [illegible]
PERMIT STATUS: [illegible] WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. [illegible] DATA

Type of Waste Injected: [illegible]

[illegible]

III. GEOLOGIC INFORMATION

Stratigraphic Description of Rock Units Penetrated by Well:

Name	Age	Depth	Thickness	Lithology
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Description of Injection Unit:

[illegible]

Geohydrology of Fresh Water Aquifers in Vicinity:

Name	Depth	Thickness	Lithology	Fluid Character

Mineral Resources in Area: [illegible]

Location of other wells in the Affected Area:

IV. WASTE CHARACTERISTICS

Chemical Description: [illegible]

[illegible]

Reaction with Surface Equipment: [illegible]

Degradability Level and Rate: [illegible]

Biological Level Before and After Injection: [illegible]

Pre-Injection Waste Treatment: [illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

[illegible]

Type and Amount of Cement: [illegible]

Well Head Equipment:

Subsurface Equipment:

Completion Method: [illegible]

Plugging Record:

Holding Tanks and Flow Lines:

[illegible]

VI. OPERATING CHARACTERISTICS

[illegible]

VII. MONITORING

Monitoring Devices and Data:

Sampling Frequency and Water Quality Parameters Measured:

Frequency of Measuring Water Levels and Hydrostatic Heads:

Contingency Plan for Well Failure During Operation:

Construction Requirements:

Monitoring Requirements:

Restrictions on Operation Procedures:

MISCELLANEOUS

[illegible]

OPERATING COMPANY: [illegible]
ADDRESS: [illegible]

OPERATIONAL STATUS: [illegible] REGION NO.: [illegible]
PERMIT STATUS: [illegible] WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible] Entry Date of Data: [illegible]
[illegible]

II. GENERAL WELL DATA

Type of Waste Injected: [illegible]

Name, Age, and Depth of Injection Zone: [illegible]
[illegible]

III. GEOLOGICAL INFORMATION

Geological Description of Rock Units Penetrated by Well

Name	Age	Depth	Thickness	Lithology
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Description of Injection Unit

	Injection Unit	Caprock
Name:	[illegible]	[illegible]
Depth:	[illegible]	[illegible]
Formation Fluid Pressure:	[illegible]	[illegible]
Fracturing Pressure:	[illegible]	[illegible]
Porosity:	[illegible]	[illegible]
Permeability:	[illegible]	[illegible]
Reservoir Temp.:	[illegible]	[illegible]

Chemical Characteristics of Formation Fluid: [illegible]

Hydrogeology of Fresh Water Aquifers in Vicinity:

Name	Depth	Thickness	Lithology	Fluid & Gradient
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Mineral Resources in Area: [illegible]

Location of Other Wells in the Affected Area: [illegible]

IV. WASTE CHARACTERISTICS

Chemical Description: [illegible]

Radioactivity: [illegible]

Reaction with Surface Equipment: [illegible]

Degradability Level and Rate: [illegible]

Biological Level Before and After Injection: [illegible]

Pre-Injection Waste Treatment: [illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

	Hole Size	Casing & Tubing Wt. & Grade	Size	Depth
Surface:	[illegible]	[illegible]	[illegible]	[illegible]
Intermediate:	[illegible]	[illegible]	[illegible]	[illegible]
Injection:	[illegible]	[illegible]	[illegible]	[illegible]

Type and Amount of Cement: [illegible]

Well Head Equipment: [illegible]

Subsurface Equipment: [illegible]

Completion Method: [illegible]

Logging Record: [illegible]

Holding Tanks and Flow Lines: [illegible]

Filters: [illegible]

Pumps: [illegible]

Total Cost of Construction: [illegible]

Operating Cost: [illegible]

VI. OPERATION CHARACTERISTICS

Injection Rates:

Date	Average	Maximum
[illegible]	[illegible]	[illegible]

Injection Pressures:

Date	Average	Maximum
[illegible]	[illegible]	[illegible]

Operating History and/or Problems: [illegible]

VII. MONITORING

Monitoring Devices and Data: [illegible]

Sampling Frequency and Water Quality Parameters Measured: [illegible]

Frequency of Reporting Water Levels and Hydrostatic Heads: [illegible]

Contingency Plan for Well Failure During Operation: [illegible]

Plugging and Abandonment Requirements: [illegible]

Modifications of Operating Procedures: [illegible]

REFERENCES

[illegible]

OPERATING COMPANY: [illegible]
ADDRESS: [illegible]

OPERATIONAL STATUS: [illegible] REGION NO.: [illegible]
PERMIT STATUS: [illegible] WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

Type of Waste Injected: [illegible]

[illegible]

III. GEOLOGIC INFORMATION

Geological Description of Rock Units Penetrated by Well:

Name	Age	Depth	Thickness	Lithology
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Description of Injection Unit:

[illegible]

Geohydrology of Fresh Water Aquifers in Vicinity:

Name	Depth	Thickness	Lithology	Fluid Character
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Mineral Resources in Area: [illegible]

Location of other Wells in the Affected Area: [illegible]

IV. WASTE CHARACTERISTICS

Chemical Description: [illegible]

[illegible]

Reaction with Surface Equipment: [illegible]

Degradability Level and Rate: [illegible]

Biological Level Before and After Injection: [illegible]

Pre-Injection Waste Treatment: [illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

[illegible]

Type and Amount of Cement: [illegible]

Well Head Equipment: [illegible]

Subsurface Equipment: [illegible]

Completion Method: [illegible]

Plugging Record: [illegible]

[illegible]

VI. OPERATION CHARACTERISTICS

Injection Rates: [illegible]

Injection Pressure: [illegible]

Operating History and/or Problems: [illegible]

VII. MONITORING

Monitoring Devices and Data: [illegible]

Sampling Frequency and Water Quality Parameters Measured: [illegible]

Frequency of Measuring Water Levels and Hydrostatic Heads: [illegible]

Contingency Plan for Well Failure During Operation: [illegible]

Restoration Requirements: [illegible]

Monitoring Requirements: [illegible]

Restrictions on Operating Procedures: [illegible]

[illegible]

[illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

[illegible]

III. GEOLOGIC INFORMATION

[illegible]

IV. WATER CHARACTERISTICS

[illegible]

V. WELL CASING AND SURFACE EQUIPMENT

[illegible]

VI. OPERATION CHARACTERISTICS

[illegible]

VII. MONITORING

[illegible]

MISCELLANEOUS

[illegible]

OPERATING COMPANY: [illegible]
ADDRESS [illegible]

OPERATIONAL STATUS: [illegible] REGION NO: [illegible]
PERMIT STATUS: [illegible] WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

[illegible]

III. GEOLOGIC INFORMATION

Geological Description of Rock Units Penetrated by Well:

Name	Age	Depth	Thickness	Lithology
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Description of Injection Unit:

[illegible]

Geohydrology of Fresh Water Aquifers in Vicinity:

Name	Depth	Thickness	Lithology	Fluid Character
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Mineral Resources in Area: [illegible]

Location of other Wells in the Affected Area: [illegible]

IV. WASTE CHARACTERISTICS

Chemical Description: [illegible]

[illegible]

Biological Level Before and After Injection: [illegible]

Pre-Injection Waste Treatment: [illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

[illegible]

Type and Amount of Cement: [illegible]

Well Head Equipment: [illegible]

Subsurface Equipment: [illegible]

Plugging Record: [illegible]

Holding Tanks and Flow Lines: [illegible]

[illegible]

VI. OPERATING CHARACTERISTICS

Injection Rates: [illegible]

Injection Pressure: [illegible]

[illegible]

VII. MONITORING

Monitoring Devices and Data: [illegible]

Sampling Frequency and Water Quality Parameters Measured: [illegible]

Frequency of Measuring Water Levels and Hydrostatic Heads: [illegible]

Contingency Plan for Well Failure During Operation: [illegible]

Construction Requirements: [illegible]

Monitoring Requirements: [illegible]

Restrictions on Operation Procedures: [illegible]

MISCELLANEOUS

[illegible]

[illegible]

[illegible]

[illegible]

OPERATING COMPANY: [illegible]
ADDRESS: [illegible]

OPERATIONAL STATUS: [illegible] | REGION: [illegible]
PERMIT STATUS: [illegible] | WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

Type of Waste Injected: [illegible]

Name, Age, and Depth of Injection Zone: [illegible]

[illegible]

III. GEOLOGIC INFORMATION

Geological Description of Rock Units Penetrated by Well:

Name	Age	Depth	Thickness	Lithology
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Description of Injection Unit:

[illegible]

Hydrology of Fresh Water Aquifers in Vicinity:

Name	Depth	Thickness	Lithology	Fluid Character
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Mineral Resources in Area: [illegible]

Location of other wells in the Affected Area: [illegible]

IV. WASTE CHARACTERISTICS

Chemical Description: [illegible]

[illegible]

Reaction with Surface Equipment: [illegible]

Degradability Level and Rate: [illegible]

Biological Level Before and After Injection: [illegible]

Pre-Injection Waste Treatment: [illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

[illegible]

Type and Amount of Cement: [illegible]

Well Head Equipment: [illegible]

Subsurface Equipment: [illegible]

Completion Method: [illegible]

Plugging Record: [illegible]

Holding Tanks and Flow Lines: [illegible]

[illegible]

VI. OPERATING CHARACTERISTICS

Injection Rates: [illegible]

Injection Pressure: [illegible]

Operating History and/or Problems: [illegible]

VII. MONITORING

Monitoring Devices and Data: [illegible]

Sampling Frequency and Water Quality Parameters Measured: [illegible]

Frequency of Measuring Water Levels and Hydrostatic Heads: [illegible]

Contingency Plan for Well Failure during Operation: [illegible]

Construction Requirements: [illegible]

Modification of Operation Procedures: [illegible]

MISCELLANEOUS

[illegible]

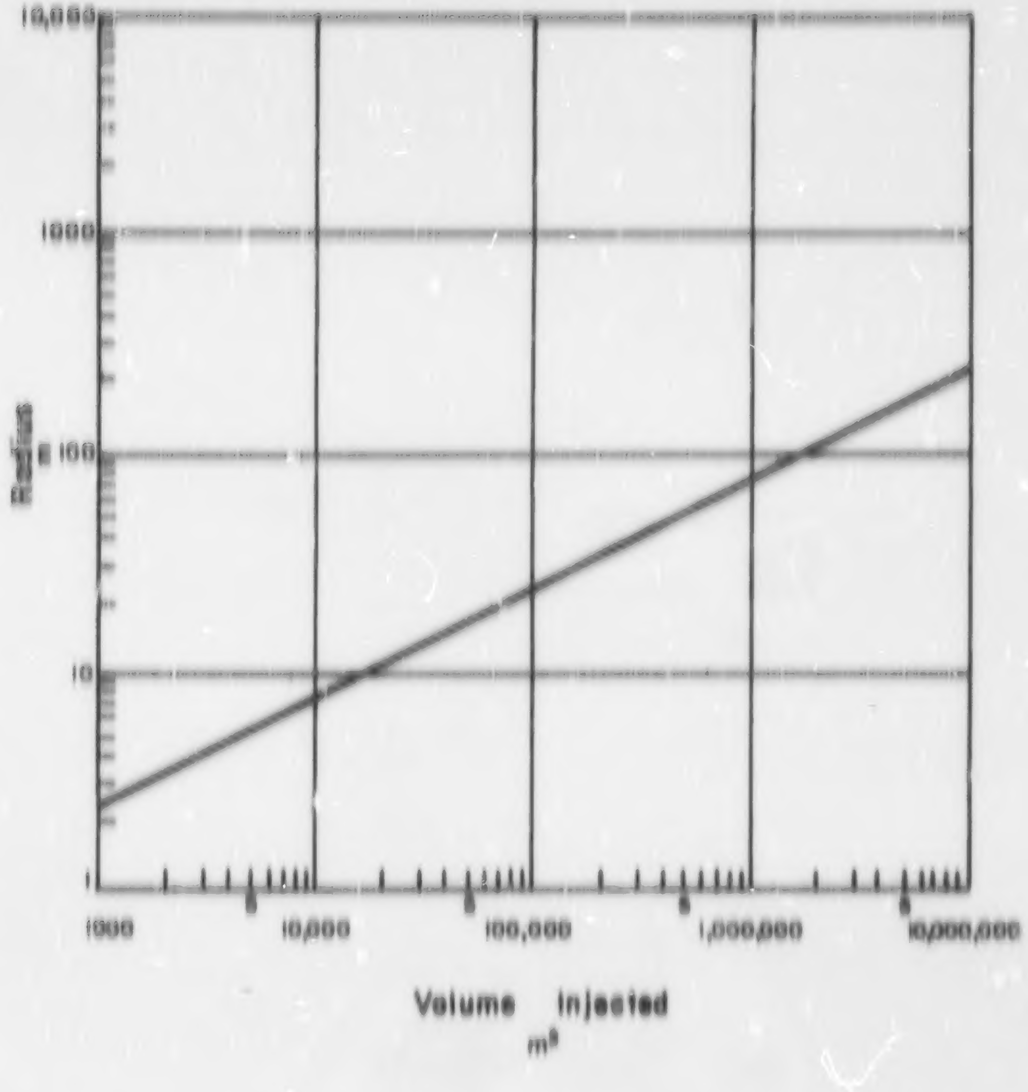


Figure 31 Radius of invasion for well MI-13

OPERATING COMPANY: [illegible]
ADDRESS [illegible]

OPERATIONAL STATUS: [illegible] REGION NO.: [illegible]
PERMIT STATUS: [illegible] WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

[illegible]

III. GEOLOGIC INFORMATION

[illegible]

IV. WASTE CHARACTERISTICS

[illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

[illegible]

VI. OPERATING CHARACTERISTICS

[illegible]

VII. MONITORING

[illegible]

BIBLIOGRAPHY

[illegible]

OPERATING COMPANY: [illegible]
ADDRESS: [illegible]

OPERATIONAL STATUS: [illegible] REGION NO.: [illegible]
PERMIT STATUS: [illegible] WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

Type of Waste Injected: [illegible]

Name, Age, and Depth of Injection Unit: [illegible]

[illegible]

III. GEOLOGIC INFORMATION

Geological Description of Rock Units Penetrated by Well

Name	Age	Depth	Thickness	Lithology
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Description of Injection Unit:

[illegible]

Chemical Characteristics of Formation Fluid: [illegible]

Geohydrology of Fresh Water Aquifers in Vicinity:

Name	Depth	Thickness	Lithology	Fluid Character
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Mineral Resources in Area: [illegible]

Location of other wells in the Affected Area: [illegible]

IV. WASTE CHARACTERISTICS

Chemical Description: [illegible]

[illegible]

Reaction with ... Equipment: [illegible]

Degradability ... and Rate: [illegible]

Biology ... Before and After Injection ... : [illegible]

Pre-... Waste Treatment: [illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

[illegible]

Type and Amount of Cement: [illegible]

Well Head Equipment: [illegible]

Subsurface Equipment: [illegible]

Completion Method: [illegible]

Plugging Record: [illegible]

Holding Tanks and Flow Lines: [illegible]

[illegible]

VI. OPERATING CHARACTERISTICS

[illegible]

VII. MONITORING

Monitoring Devices and Data: [illegible]

Sampling Frequency and Water Quality Parameters Measured: [illegible]

Frequency of Measuring Water Levels and Hydrostatic Heads: [illegible]

Contingency Plan for Well Failure During Operation: [illegible]

Construction Requirements: [illegible]

Monitoring Requirements: [illegible]

Restrictions on Operation Procedures: [illegible]

MISCELLANEOUS

[illegible]

OPERATING COMPANY: [illegible]
ADDRESS: [illegible]

OPERATIONAL STATUS: [illegible] REGION NO.: [illegible]
PERMIT STATUS: [illegible] WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

Type of Waste Injected: [illegible]

Name, Age, and Depth of Injection Zone: [illegible]

III. GEOLOGIC INFORMATION

Geological Description of Rock Units Penetrated by Well:

Name	Age	Depth	Thickness	Lithology
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Description of Injection Unit

[illegible]

Geohydrology of Fresh Water Aquifers in Vicinity:

Name	Depth	Thickness	Lithology	Fluid Character

Mineral Resources in Area: [illegible]

Location of other wells in the affected area: [illegible]

IV. WASTE CHARACTERISTICS

Chemical Description: [illegible]

[illegible]

Reaction with Surface Equipment: [illegible]

Degradability Level and Rate: [illegible]

Biological Level Before and After Injection: [illegible]

Pre-injection Waste Treatment: [illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

[illegible]

Well Head Equipment:

Subsurface Equipment: [illegible]

Completion Method: [illegible]

Plugging Record:

Holding Tanks and Flow Lines: [illegible]

[illegible]

VI. OPERATING CHARACTERISTICS

Injection Rates:

Injection Pressure:

Operating History and/or Problems:

VII. MONITORING

Monitoring Devices and Data:

Sampling Frequency and Water Quality Parameters Measured:

Frequency of Measuring Water Levels and Hydrostatic Heads:

Contingency Plan for Well Failure During Operation:

Construction Requirements:

Monitoring Requirements:

Restrictions on Operation Procedures:

MISCELLANEOUS

Location: [illegible]

[redacted]

OPERATING COMPANY: Dow Chemical Co.
ADDRESS: Midland, Michigan

OPERATIONAL STATUS: [illegible] REGION NO.: [illegible]
PERMIT STATUS: [illegible] WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

Type of Waste Injected: [illegible]

Name, Age, and Depth of Injection Zone: [illegible]

III. GEOLOGIC INFORMATION

Geological Description of Rock Units Penetrated by Well:

Name	Age	Depth	Thickness	Lithology
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Description of Injection Unit:

	Injection Unit	Caprock
Name:	[illegible]	
Depth:	[illegible]	
Formation Fluid Pressure:		
Geothermal Gradient:		
Fracturing Pressure:		
Porosity:		
Permeability:		
Reservoir Characteristics of Formation Fluid:		

Geohydrology of Fresh Water Aquifers in Vicinity:

Name	Depth	Thickness	Lithology	Fluid Character
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Mineral Resources in Area: [illegible]

Location of other wells in the Affected Area: [illegible]

IV. WASTE CHARACTERISTICS

Chemical Description: [illegible]

Radioactivity:
Total Suspended Solids, mg/l: pH: Total Dissolved Solids, mg/l: Specific Gravity:
Temperature:
Toxicity:

Reaction with Surface Equipment: [illegible]

Degradability Level and Rate:

Biological Level Before and After Injection Test:

Pre-Injection Waste Treatment: [illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

	Hole Size	Casing-Tubing Wt. & Grade	Size	Depth
Surface				
Intermediate		[illegible]	[illegible]	[illegible]
Other				
Injection			[illegible]	[illegible]
Liner				

Type and Amount of Cement: [illegible]

Well Head Equipment:

Subsurface Equipment: [illegible]

Completion Method: [illegible]

Plugging Record:

Holding Tanks and Flow Lines: [illegible]

Filters:
Pumps:
Other:
Total Cost of Construction:
Operating Cost:

VI. OPERATING CHARACTERISTICS

Injection Rates, gal/min:

Date	Average	Maximum
[illegible]	[illegible]	

Injection Pressure, psig:

Date	Average	Maximum
[illegible]	[illegible]	

Operating History and/or Problems: [illegible]

VII. MONITORING

Monitoring Devices and Data:

Sampling Frequency and Water Quality Parameters Measured:

Frequency of Measuring Water Levels and Hydrostatic Heads:

Contingency Plan for Well Failure During Operation: [illegible]

REGULATORY ASPECTS

Construction Requirements:

Monitoring Requirements:

Restrictions on Operation Procedures:

MISCELLANEOUS

[illegible]

[redacted]

OPERATING COMPANY: [illegible]
ADDRESS: [illegible]

OPERATIONAL STATUS: [illegible] REGION NO.: [illegible]
PERMIT STATUS: [illegible] WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

Type of Waste Injected: [illegible]

Name, Age, and Depth of Injection Unit: [illegible]

[illegible]

III. GEOLOGIC INFORMATION

Geological Description of Rock Units Penetrated by Well:

Name	Age	Depth	Thickness	Lithology
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Description of Injection Unit:

	Injection Unit	Caprock
[illegible]	[illegible]	[illegible]

Hydrology of Fresh Water Aquifers in Vicinity:

Name	Depth	Thickness	Lithology	Fluid Character
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Mineral Resources in Area: [illegible]

Location of Other Wells in the Affected Area: [illegible]

IV. WASTE CHARACTERISTICS

Chemical Description: [illegible]

[illegible]

Reaction with Surface Equipment: [illegible]

Biological Level Before and After Injection (Vol.): [illegible]

Pre-Injection Waste Treatment: [illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

[illegible]

Type and Amount of Cement: [illegible]

Well Head Equipment: [illegible]

Subsurface Equipment: [illegible]

Completion Method: [illegible]

Plugging Record: [illegible]

Holding Tanks and Flow Lines: [illegible]

[illegible]

VI. OPERATING CHARACTERISTICS

Injection Rates: [illegible]

Injection Pressure: [illegible]

Operating History and/or Problems: [illegible]

VII. MONITORING

Monitoring Devices and Data: [illegible]

Sampling Frequency and Water Quality Parameters Measured: [illegible]

Frequency of Measuring Water Levels and Hydrostatic Heads: [illegible]

Contingency Plan for Well Failure During Operation: [illegible]

Construction Requirements: [illegible]

Monitoring Requirements: [illegible]

Restrictions on Operation Procedures: [illegible]

MISCELLANEOUS

[illegible]

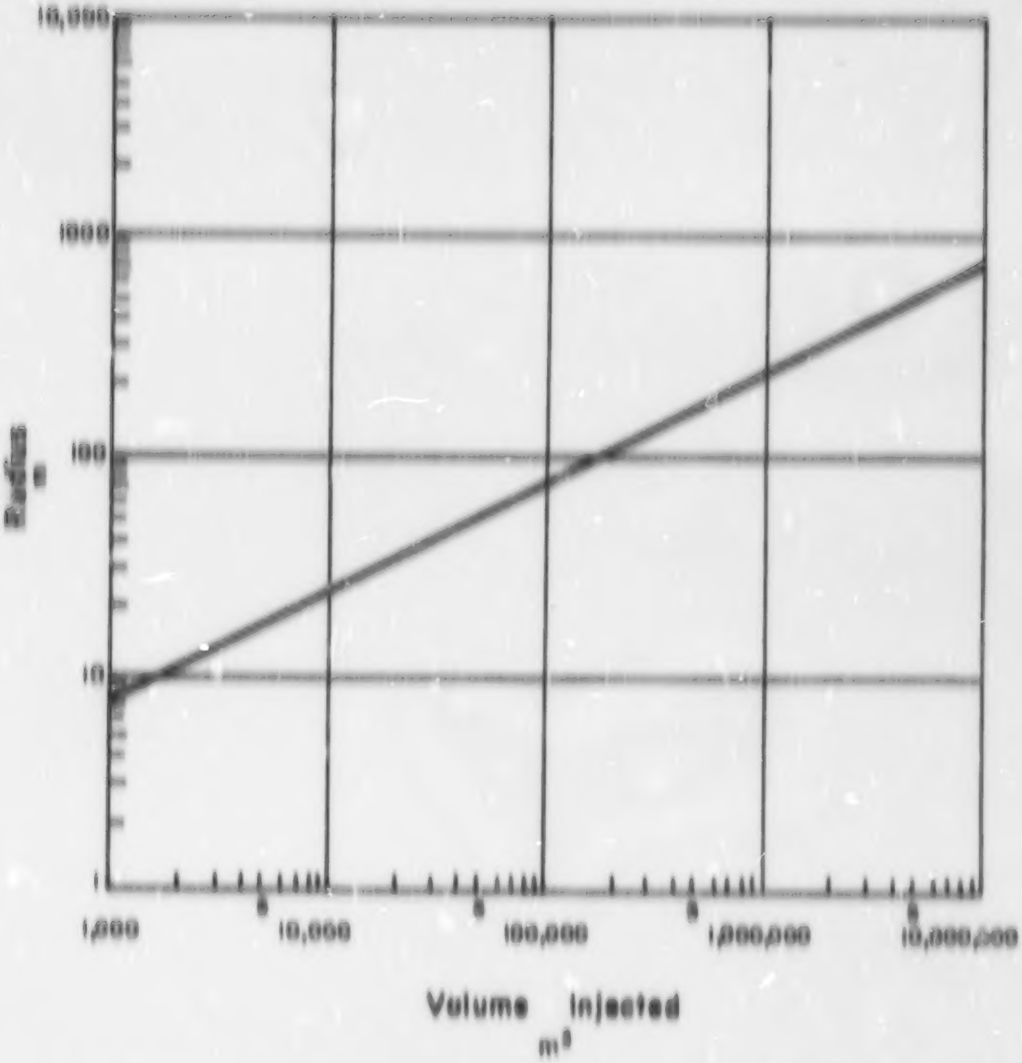


Figure 32 Radius of invasion for well MI-26

OPERATING COMPANY: [illegible]
ADDRESS: [illegible]

OPERATIONAL STATUS: [illegible] REGION NO.: [illegible]
PERMIT STATUS: [illegible] WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

Type of Waste Injected: [illegible]

[illegible]

III. GEOLOGIC INFORMATION

Geological Description of Rock Units Penetrated by Well:

Name	Age	Depth	Thickness	Lithology
[illegible]	[illegible]	[illegible]		[illegible]

Description of Injection Unit:

[illegible]

Hydrogeology of Fresh Water Aquifers in Vicinity:

Name	Depth	Thickness	Lithology	Fluid Character
[illegible]	[illegible]	[illegible]	[illegible]	

Mineral Resources in Area: [illegible]

Location of Other Wells in the Affected Area: [illegible]

IV. WASTE CHARACTERISTICS

Chemical Description: [illegible]

[illegible]

Reactions with Surface Equipment: [illegible]

Biodegradability Level and Rate:

[illegible]

Pre-Injection Waste Treatment:

V. WELL DESIGN AND SURFACE EQUIPMENT

[illegible]

Type and Amount of Cement: [illegible]

Well Head Equipment:

Subsurface Equipment:

Completion Method: [illegible]

Plugging Record:

Holding Tanks and Flow Lines:

[illegible]

VI. OPERATING CHARACTERISTICS

[illegible]

VII. MONITORING

Monitoring Devices and Data: [illegible]

Sampling Frequency and Water Quality Parameters Measured:

Frequency of Measuring Water Levels and Hydrostatic Heads:

Contingency Plan for Well Failure During Operation:

Construction Requirements: [illegible]

Monitoring Requirements:

Restrictions on Operating Procedures:

REFERENCES

[illegible]

OPERATING COMPANY: [illegible]
ADDRESS: [illegible]

OPERATIONAL STATUS: [illegible] REGION NO.: [illegible]
PERMIT STATUS: [illegible] WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

[illegible]

III. GEOLOGIC INFORMATION

[illegible]

IV. WASTE CHARACTERISTICS

[illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

[illegible]

VI. OPERATING CHARACTERISTICS

[illegible]

VII. MONITORING

[illegible]

OPERATING COMPANY: [illegible]
ADDRESS: [illegible]

OPERATIONAL STATUS: [illegible] REGION NO.: [illegible]
PERMIT STATUS: [illegible] WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

SIC Classification: [illegible] Entry Date of Data: [illegible]
Latitude and Longitude: [illegible]
Legal Description of Location: [illegible]
County: [illegible] State: [illegible] Field/Pool: [illegible]

II. GENERAL WELL DATA

Type of Waste Injected: [illegible]

Name, Age, and Depth of Injection Zone: [illegible]
Total Depth: [illegible]
Date Well Permitted: [illegible] Completed: [illegible]
Date Injection Began: [illegible] Date Injection Ceased: [illegible]
Total Volume Injected: [illegible]
Source Ref. of Information: [illegible]

III. GEOLOGIC INFORMATION

Geological Description of Rock Units Penetrated by Well:

Name	Age	Depth	Thickness	Lithology
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Description of Injection Unit:

	Injection Unit	Confining
Name	[illegible]	[illegible]
Depth	[illegible]	[illegible]
Thickness	[illegible]	[illegible]
Formation Fluid Press.	[illegible]	[illegible]
Lithology	[illegible]	[illegible]
Porosity	[illegible]	[illegible]
Permeability	[illegible]	[illegible]

Chemical Characteristics of Formation Fluid: [illegible]

Geohydrology of Fresh Water Aquifers in Vicinity:

Name	Depth	Thickness	Lithology	Fluid Character
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Mineral Resources in Area: [illegible]

Location of other wells in the affected area: [illegible]

IV. WASTE CHARACTERISTICS

Chemical Description: [illegible]

Radioactivity: [illegible]

Reactions with Surface Equipment: [illegible]

Degradability Level and Rate: [illegible]

Biological Level Before and After Injection: [illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

	Hole Size	Casing/Tubing Wt. & Grade	Size	Depth
Surface:	[illegible]	[illegible]	[illegible]	[illegible]
Intermediate:	[illegible]	[illegible]	[illegible]	[illegible]
Other:	[illegible]	[illegible]	[illegible]	[illegible]
Injection:	[illegible]	[illegible]	[illegible]	[illegible]
Liner:	[illegible]	[illegible]	[illegible]	[illegible]

Type and Amount of Cement: [illegible]

Well Head Equipment: [illegible]

Surface Equipment: [illegible]

Completion Method: [illegible]

Plugging Record: [illegible]

Holding Tanks and Flow Lines: [illegible]

Filters: [illegible]
Pumps: [illegible]
Other: [illegible]
Total Cost of Construction: [illegible]
Operating Cost: [illegible]

VI. OPERATING CHARACTERISTICS

Injection Rates:

Date	Average	Maximum
[illegible]	[illegible]	[illegible]

Injection Pressure:

Date	Average	Maximum
[illegible]	[illegible]	[illegible]

Operating History and/or Problems: [illegible]

VII. MONITORING

Monitoring Devices and Data: [illegible]

Sampling Frequency and Water Quality Parameters Measured: [illegible]

Frequency of Measuring Water Levels and Hydrostatic Tests: [illegible]

Contingency Plan for Well Failure During Operation: [illegible]

Construction Requirements: [illegible]

Monitoring Requirements: [illegible]

Restrictions on Operation Procedures: [illegible]

REFERENCES

[illegible]

OPERATING COMPANY: [illegible]
ADDRESS [illegible]

OPERATIONAL STATUS: [illegible] REGION NO.: [illegible]
PERMIT STATUS: [illegible] WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

Type of Waste Injected: [illegible] hydrochloric acid.

Name, Age, and Depth of Injection Zone: [illegible]

[illegible]

III. GEOLOGIC INFORMATION

Geological Description of Rock Units Penetrated by Well:

Name	Age	Depth	Thickness	Lithology
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Description of Injection Unit:

[illegible]

Hydrology of Fresh Water Aquifers in Vicinity:

Name	Depth	Thickness	Lithology	Fluid Character
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Mineral Resources in Area: [illegible]

Location of other wells in the affected area: [illegible]

IV. WASTE CHARACTERISTICS

Chemical Description: [illegible]

[illegible]

Reaction with Surface Equipment: [illegible]

Degradability Level and Rate: [illegible]

Biological Level Before and After Injection: [illegible]

Pre-Injection Waste Treatment: [illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

[illegible]

Type and Amount of Cement: [illegible]

Subsurface Equipment: [illegible]

Completion Method: [illegible]

Plugging Record: [illegible]

Holding Tanks and Flow Lines: [illegible]

[illegible]

VI. OPERATING CHARACTERISTICS

Injection Rates: [illegible]

Injection Pressure: [illegible]

Operating History and/or Problems: [illegible]

VII. [illegible]

Monitoring Devices and Data: [illegible]

Sampling Frequency and Water Quality Parameters Measured: [illegible]

Frequency of Measuring Water Levels and Hydrostatic Heads: [illegible]

Contingency Plan for Well Failure During Operation: [illegible]

Construction Requirements: [illegible]

Monitoring Requirements: [illegible]

Restrictions on Operation Procedures: [illegible]

MISCELLANEOUS

[illegible]

OPERATING COMPANY: E. I. DUPONT DE NEMOURS

ADDRESS: [illegible]

OPERATIONAL STATUS: [illegible] REGION NO.: [illegible]

PERMIT STATUS: [illegible] WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

SIC Classification: [illegible] Entry Date of Data: [illegible]

Latitude and Longitude: [illegible]

Legal Description of Location: [illegible]

County: [illegible] State: [illegible] Elevation: [illegible]

II. GENERAL WELL DATA

Type of Waste Injected: [illegible]

Name, Age, and Depth of Injection Zone: [illegible]

Date Well Permitted: [illegible] Total Depth: [illegible]

[illegible]

III. GEOLOGIC INFORMATION

Lithologic Description of Rock Units Penetrated by Well:

Name	Age	Depth	Thickness	Lithology
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Description of Injection Unit:

	Injection Unit	Caprock
[illegible]	[illegible]	[illegible]

Chemical Characteristics of Formation Fluid: [illegible]

Hydrology of Fresh Water Aquifers in Vicinity:

Name	Depth	Thickness	Lithology	Fluid Character
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Mineral Resources in Area: [illegible]

Location of other wells in the Affected Area: [illegible]

IV. WASTE CHARACTERISTICS

Chemical Description: [illegible]

Radioactivity: [illegible] Specific Gravity: [illegible]

Reaction with Surface Equipment: [illegible]

Degradability Level and Rate: [illegible]

Biological Level Before and After Injection: [illegible]

Pre-injection Waste Treatment: [illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

	Hole Size	Casing/Tubing Wt. & Grade	Size	Depth
Surface:	[illegible]	[illegible]	[illegible]	[illegible]
Intermediate:	[illegible]	[illegible]	[illegible]	[illegible]
Other:	[illegible]	[illegible]	[illegible]	[illegible]
Injection:	[illegible]	[illegible]	[illegible]	[illegible]
Liner:	[illegible]	[illegible]	[illegible]	[illegible]

Type and Amount of Cement: [illegible]

Well Head Equipment: [illegible]

Subsurface Equipment: [illegible]

Completion Method: [illegible]

Plugging Record: [illegible]

Holding Tanks and Flow Lines: [illegible]

Filters: [illegible]

Pumps: [illegible]

Total Cost of Construction: [illegible]

Operating Cost: [illegible]

VI. OPERATING CHARACTERISTICS

Injection Rates:

Date	Average	Maximum
[illegible]	[illegible]	[illegible]

Injection Pressure:

Date	Average	Maximum
[illegible]	[illegible]	[illegible]

Operating History, and/or Problems: [illegible]

VII. MONITORING

Monitoring Devices and Data: [illegible]

Sampling Frequency and Water Quality Parameters Measured: [illegible]

Frequency of Measuring Water Levels and Hydrostatic Heads: [illegible]

Contingency Plan for Well Failure During Operation: [illegible]

Construction Requirements: [illegible]

Monitoring Requirements: [illegible]

Restrictions on Operation Procedures: [illegible]

MISCELLANEOUS

[illegible]

OPERATING COMPANY: Michigan Chemical Co.
ADDRESS: St. Louis, Michigan

OPERATIONAL STATUS:
REGION NO.:
PERMIT STATUS:
WELL CODE:

I. GENERAL IDENTIFICATION DATA

SIC Classification: Entry Date of Data:
Latitude and Longitude:
Legal Description of Location:
County: State: Michigan Elevation:

II. GENERAL WELL DATA

Type of Waste Injected:

Name, Age, and Depth of Injection Zone:

III. GEOLOGIC INFORMATION

Geological Description of Rock Units Penetrated by Well:

Name	Age	Depth	Thickness	Lithology

Description of Injection Unit:

	Injection Unit	Confining

Chemical Characteristics of Formation Fluid:

Hydrogeology of Fresh Water Aquifers in Vicinity:

Name	Depth	Thickness	Lithology	Fluid Character

Mineral Resources in Area:

Location of Other Wells in the Affected Area:

IV. WASTE CHARACTERISTICS

Chemical Description:

Radioactivity: pH:
Total Dissolved Solids, mg/l: Specific Gravity: Dissolved
Toxicity:

Reaction with Surface Equipment:

Degradability Level and Rate:

Biological Level Before and After Injection:

Pre-Injection Waste Treatment:

V. WELL DESIGN AND SURFACE EQUIPMENT

	Hole Size	Casing/Tubing: Wt. & Grade	Size	Depth
Surface:				
Intermediate:				
Other:				
Injection:				
Liner:				

Type and Amount of Cement:

Well Head Equipment:

Subsurface Equipment:

Completion Method:

Plugging Record:

Holding Tanks and Flow Lines:

Filters:
Pumps:
Total Cost of Construction:
Operating Cost:

VI. OPERATION CHARACTERISTICS

Injection Rates:
Date Average Maximum

Injection Pressure:
Date Average Maximum

Operating History and/or Problems:

VII. MONITORING

Monitoring Devices and Data:

Sampling Frequency and Water Quality Parameters Measured:

Frequency of Measuring Water Levels and Hydrostatic Heads:

Contingency Plan for Well Failure During Operation:

Notification Requirements:

Monitoring Requirements:

Restrictions on Operation Procedures:

REFERENCES

OPERATING COMPANY: [illegible]
ADDRESS [illegible]

OPERATIONAL STATUS: [illegible]
PERMIT STATUS: [illegible]
REGION NO.: [illegible]
WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

Type of Waste Injected: [illegible]

[illegible]

III. GEOLOGIC INFORMATION

Geological Description of Rock Units Penetrated by Well:

Name	Age	Depth	Thickness	Lithology
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Description of Injection Unit:

[illegible]

Hydrogeology of Fresh Water Aquifers in Vicinity:

Name	Depth	Thickness	Lithology	Fluid Character

Mineral Resources in Area:

Location of other wells in the Affected Area:

IV. WASTE CHARACTERISTICS

[illegible]

Reaction with Surface Equipment: [illegible]

Biological Level Before and After Injection: [illegible]

Pre-Injection Waste Treatment:

V. WELL DESIGN AND SURFACE EQUIPMENT

[illegible]

Well Head Equipment:

Subsurface Equipment: [illegible]

Plugging Record:

Holding Tanks and Flow Lines:

[illegible]

VI. OPERATING CHARACTERISTICS

Injection Rates: [illegible]

Injection Pressure: [illegible]

Operating History: [illegible]

VII. MONITORING

Monitoring Devices and Data: [illegible]

Frequency of Reporting Water Levels and Hydrostatic Head:

Contingency Plan for Well Failure During Operation:

[illegible]

Restrictions on Operation Procedures: [illegible]

MISCELLANEOUS

[illegible]

OPERATING COMPANY: [illegible]
ADDRESS [illegible]

OPERATIONAL STATUS: [illegible] REGION NO.: [illegible]
PERMIT STATUS: [illegible] WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

Type of Waste Injected: [illegible]

[illegible]

III. GEOLOGIC INFORMATION

Geological Description of Rock Units Penetrated by Well:

Name	Age	Depth	Thickness	Lithology
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Description of Injection Unit:

[illegible]

Unit	Depth	Thickness	Lithology	Fluid Character
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Mineral Resources in Area: [illegible]

Location of Other Wells in the Affected Area: [illegible]

IV. WASTE CHARACTERISTICS

Chemical Description: [illegible]

[illegible]

Reaction with Surface Equipment: [illegible]

Biological Level Before and After Injection (Bacteria): [illegible]

Pre-Injection Waste Treatment: [illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

[illegible]

Type and Amount of Cement: [illegible]

Well Head Equipment: [illegible]

Subsurface Equipment: [illegible]

Completion Method: [illegible]

Plugging Record: [illegible]

Holding Tanks and Flow Lines: [illegible]

[illegible]

VI. OPERATING CHARACTERISTICS

Injection Rates: [illegible]

Injection Pressure: [illegible]

Operating History and/or Problems: [illegible]

VII. MONITORING

Monitoring Devices and Data: [illegible]

Sampling Frequency and Water Quality Parameters Measured: [illegible]

Frequency of Measuring Water Levels and Hydrostatic Heads: [illegible]

Contingency Plan for Well Failure During Operation: [illegible]

Construction Requirements: [illegible]

Modifications to Operation Procedures: [illegible]

MISCELLANEOUS

[illegible]

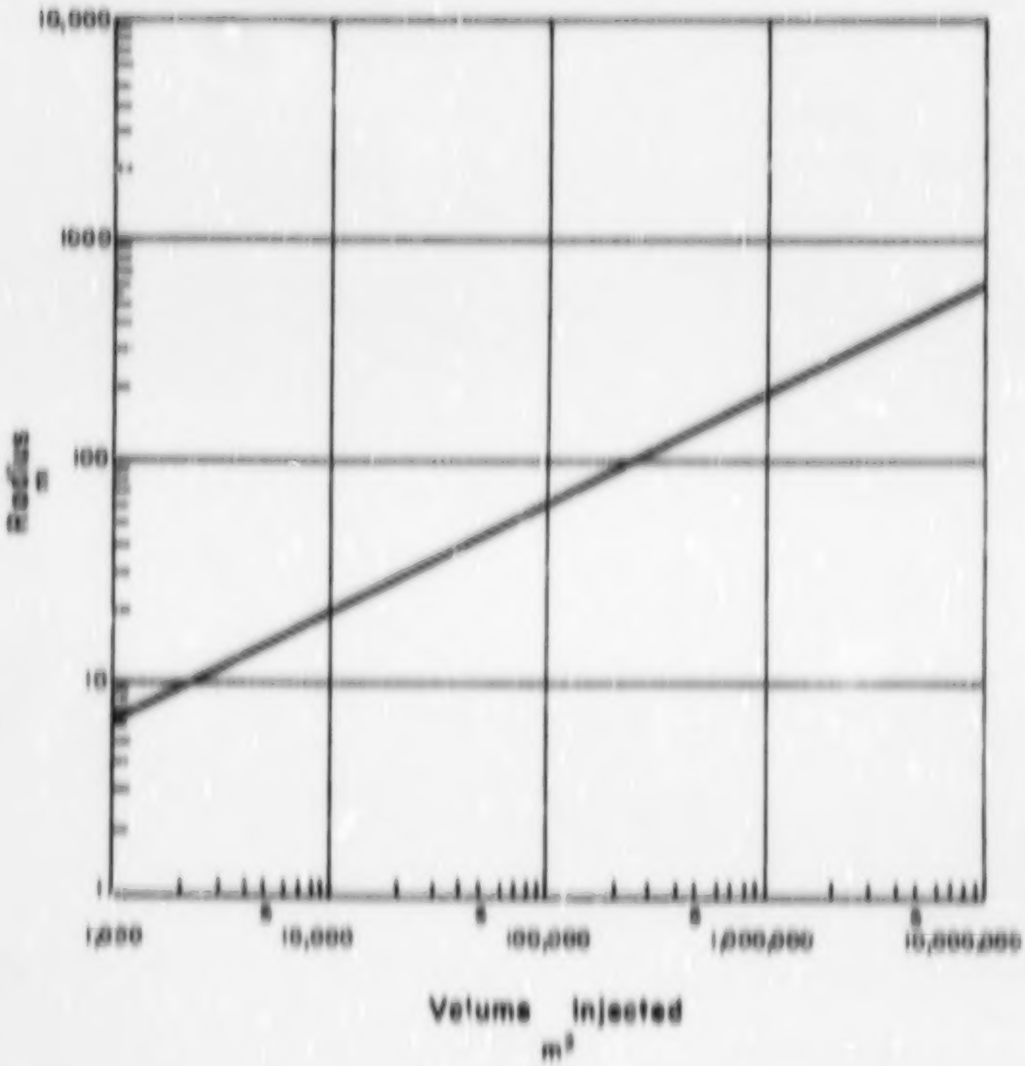


Figure 53 Radius of invasion for well OH-2

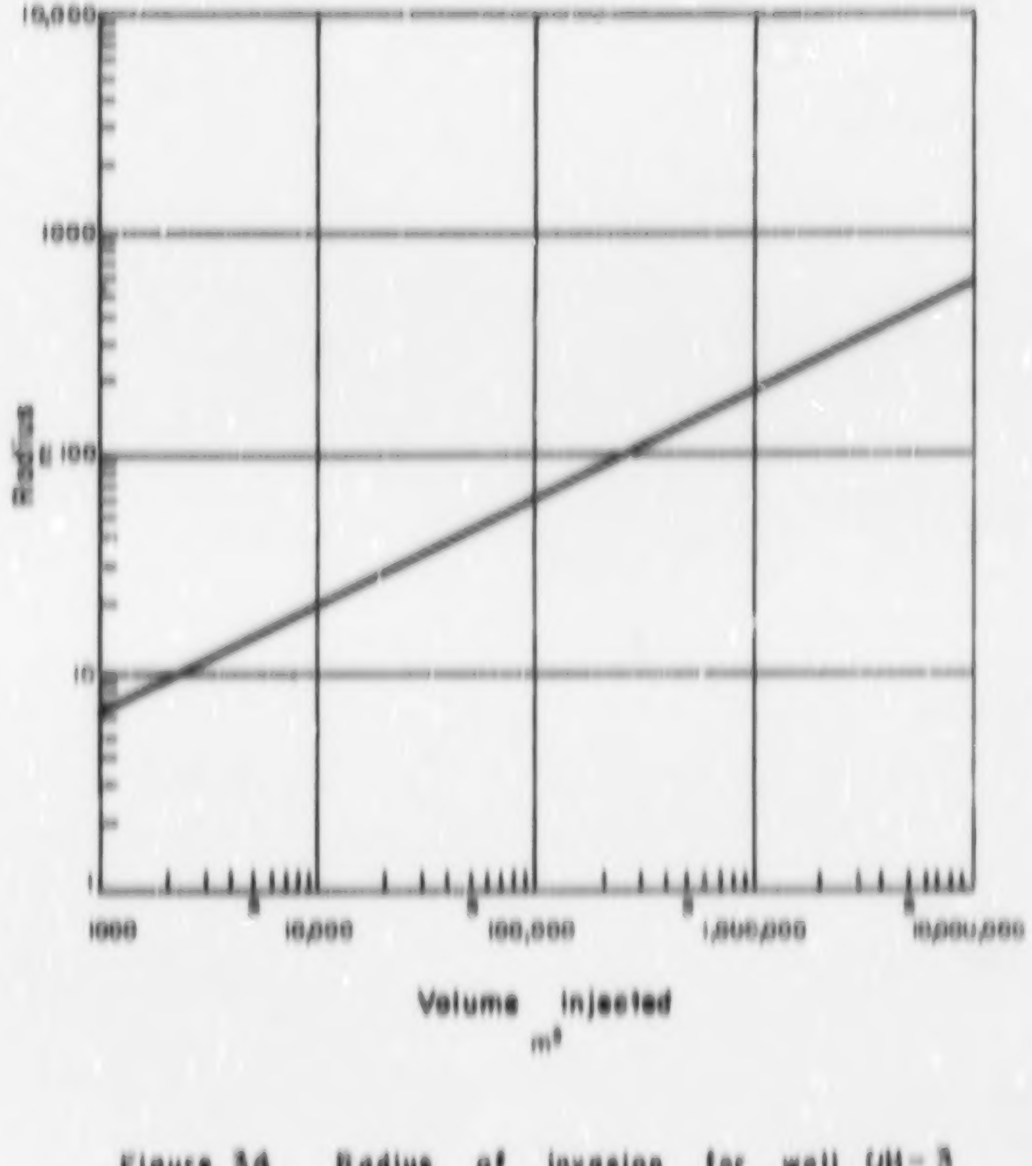


Figure 34 Radius of invasion for well UH-3

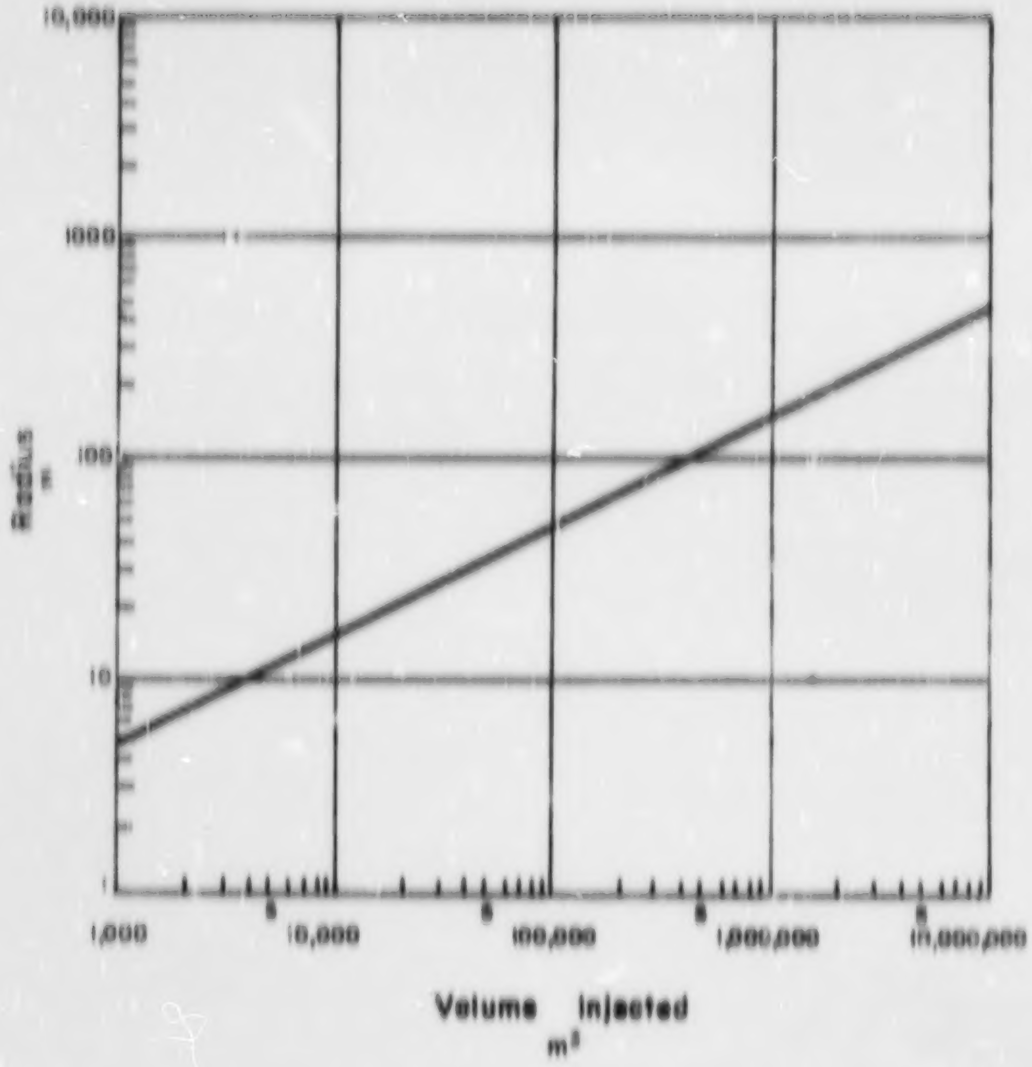


Figure 35 Radius of invasion for well OH-4

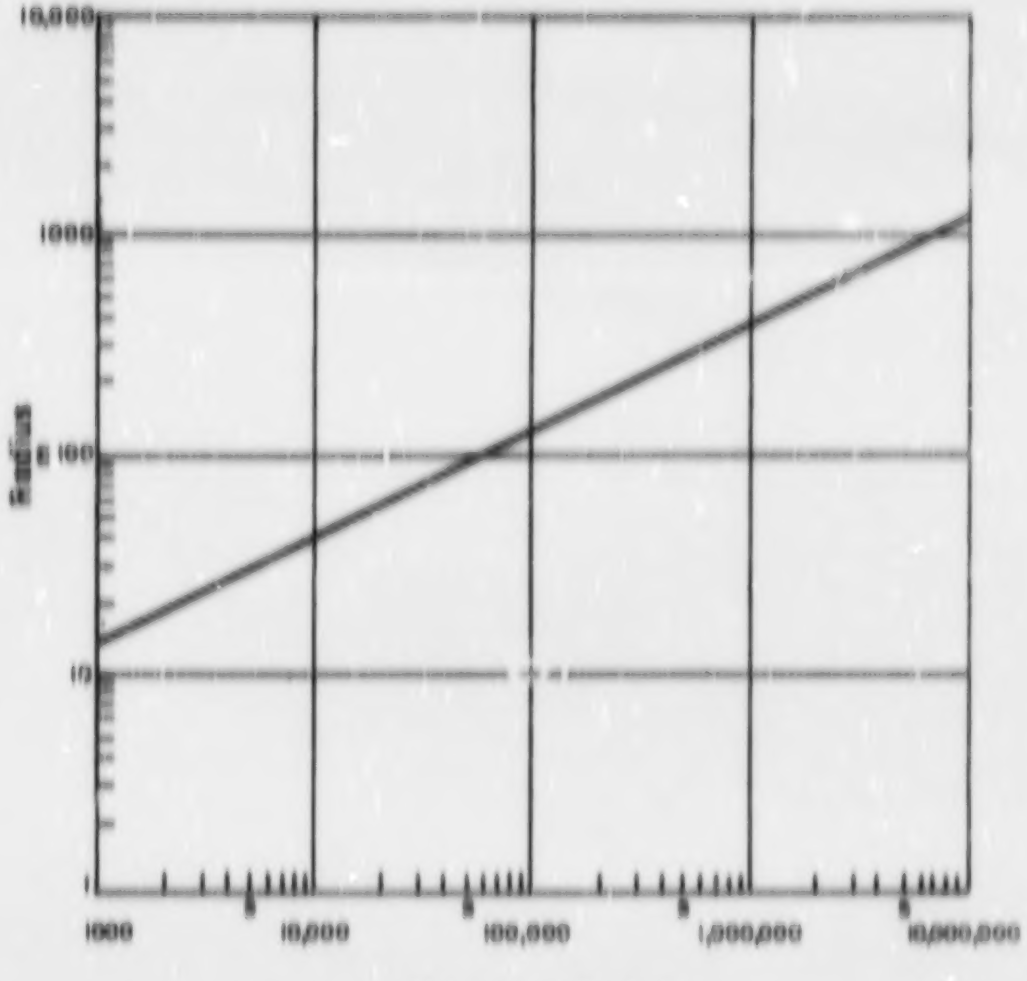


Figure 36 Radius of invasion for well OH-5

OPERATING COMPANY: [illegible]

ADDRESS: [illegible]

OPERATIONAL STATUS: [illegible]

REGION NO.: [illegible]

PERMIT STATUS: [illegible]

WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

II. GENERAL WELL DATA

III. GEOLOGIC INFORMATION

IV. WASTE CHARACTERISTICS

V. WELL DESIGN AND SURFACE EQUIPMENT

VI. OPERATING CHARACTERISTICS

VII. MONITORING

MISCELLANEOUS

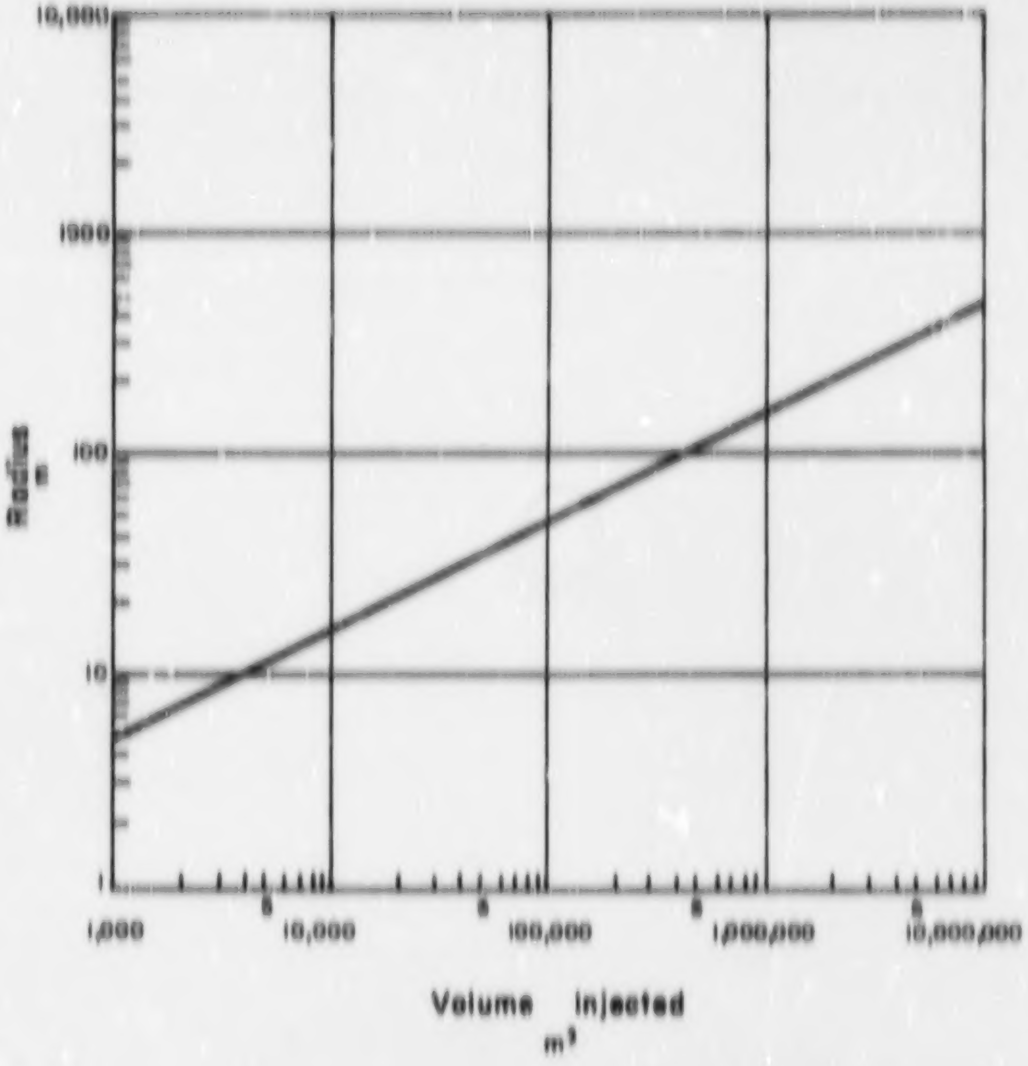


Figure 37 Radius of invasion for well OH-6

OPERATING COMPANY:
ADDRESS

OPERATIONAL STATUS:
REGION NO.:
PERMIT STATUS:
WELL CODE:

I. GENERAL IDENTIFICATION DATA

II. GENERAL WELL DATA

Type of Waste Injected:

III. GEOLOGIC INFORMATION

Stratigraphic Description of Rock Units Penetrated by Well:

Description of Injection Unit:

Hydrology of Fresh Water Aquifers in Vicinity:

Mineral Resources in Area:

Location of other Wells in the Affected Area:

IV. WASTE CHARACTERISTICS

Reaction with Surface Equipment:

Degradability Level and Rate:

Biological Level Before and After Injection (Bact.):

Pre-Injection Waste Treatment:

V. WELL DESIGN AND SURFACE EQUIPMENT

Type and Amount of Cement:

Well Head Equipment:

Subsurface Equipment:

Completion Method:

Plugging Record:

Holding Tanks and Flow Lines:

VI. OPERATING CHARACTERISTICS

Injection Rates:

Injection Pressure:

VII. MONITORING

Monitoring Devices and Data:

Sampling Frequency and Water Quality Parameters Measured:

Frequency of Measuring Water Levels and Hydrostatic Heads:

Contingency Plan for Well Failure During Operation:

Construction Requirements:

Monitoring Requirements:

Restrictions on Operation Procedures:

MISCELLANEOUS

[redacted]

OPERATING COMPANY: [illegible]
ADDRESS: [illegible]

OPERATIONAL STATUS: [illegible] REGION NO.: [illegible]
PERMIT STATUS: [illegible] WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

Type of Waste Injected: [illegible]

Name, Age, and Depth of Injection Zone: [illegible]

III. GEOLOGIC INFORMATION

Geological Description of Rock Units Penetrated by Well:

Name	Age	Depth	Thickness	Lithology
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Description of Injection Unit:

[illegible]

Geohydrology of Fresh Water Aquifers in Vicinity:

Name	Depth	Thickness	Lithology	Fluid Character

Mineral Resources in Area: [illegible]

Location of other wells in the Affected Area: [illegible]

IV. WASTE CHARACTERISTICS

Chemical Description: [illegible]

[illegible]

Reaction with Surface Equipment: [illegible]

[illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

[illegible]

Well Head Equipment: [illegible]

Subsurface Equipment: [illegible]

Completion Method: [illegible]

Plugging Record: [illegible]

[illegible]

VI. OPERATING CHARACTERISTICS

Injection Rates: [illegible]

Injection Pressure: [illegible]

Operating History and/or Problems: [illegible]

VII. MONITORING

Monitoring Devices and Data: [illegible]

Sampling Frequency and Water Quality Parameters Measured: [illegible]

Frequency of Measuring Water Levels and Hydrostatic Heads: [illegible]

Contingency Plan for Well Failure During Operation: [illegible]

Abandonment Requirements: [illegible]

Monitoring Requirements: [illegible]

Notification of Operation Procedures: [illegible]

MISCELLANEOUS

[illegible]

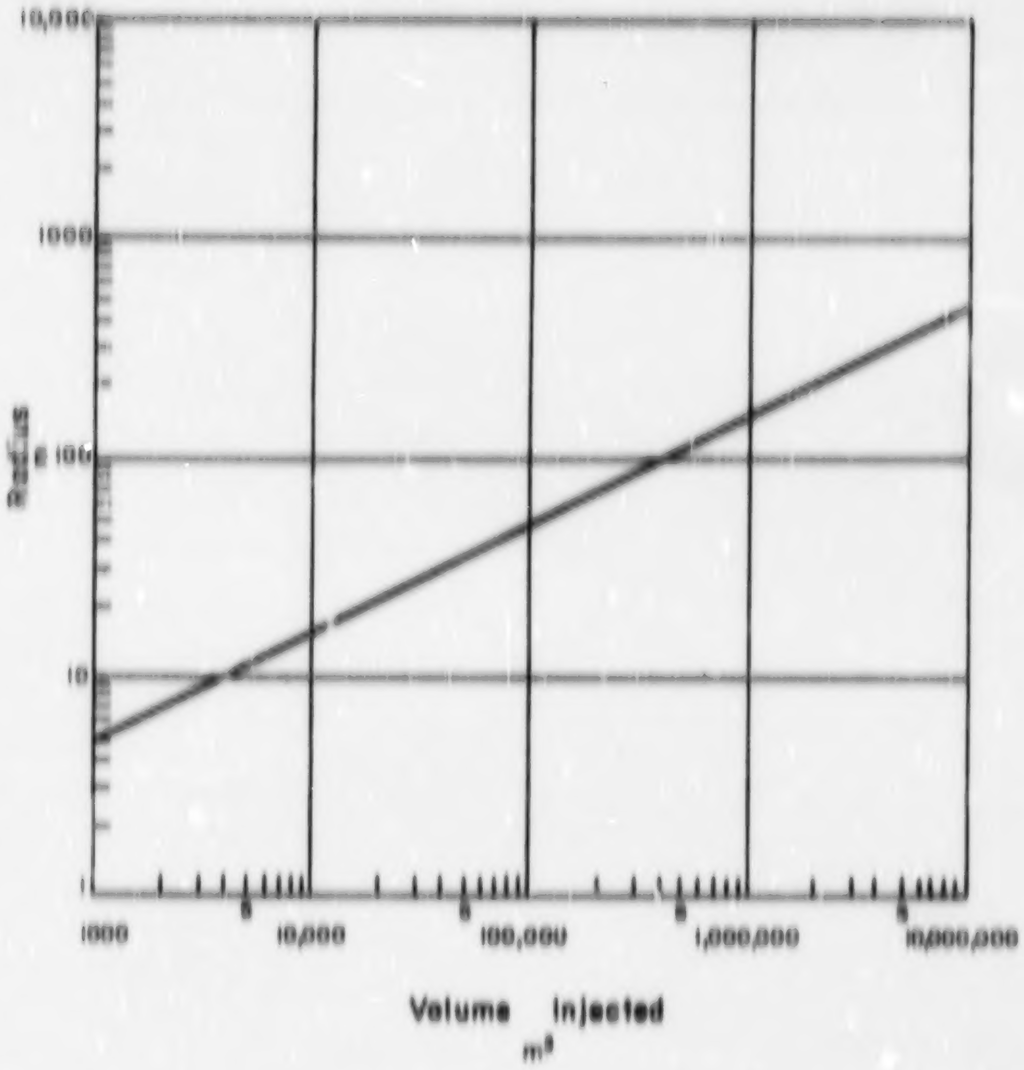


Figure 38 Radius of invasion for well OH-9

OPERATING COMPANY:
ADDRESS

OPERATIONAL STATUS:
PERMIT STATUS:
REGION NO.:
WELL CODE:

I. GENERAL IDENTIFICATION DATA

Entry Date of Data:

State:

Elevation:

II. GENERAL WELL DATA

Type of Waste Injected:

Name, Age, and Depth of Injection Zone:

Date Well Injection Ceased:

Comments:

III. GEOLOGIC INFORMATION

Geological Description of Rock Units Penetrated by Well:

Name	Age	Depth	Thickness	Lithology

Description of Injection Unit:

Injection Unit | Caprock

Chemical Characteristics of Formation Fluid:

Geohydrology of Fresh Water Aquifers in Vicinity:

Name	Depth	Thickness	Lithology	Fluid Character

Mineral Resources in Area:

Location of other wells in the Affected Area:

IV. WASTE CHARACTERISTICS

Chemical Description:

Specific Gravity:

Reaction with Surface Equipment:

Degradability Level and Rate:

Biological Level Before and After Injection (Max.):

Pre-Injection Waste Treatment:

V. WELL DESIGN AND SURFACE EQUIPMENT

Casing-Tubing Wt. & Grade | Size | Depth

Type and Amount of Cement:

Well Head Equipment:

Subsurface Equipment:

Completion Method:

Plugging Record:

Holding Tanks and Flow Lines:

Type of Monitoring:

VI. OPERATION CHARACTERISTICS

Injection Rates:

Average | Maximum

Injection Pressure:

Average | Maximum

Operating History and/or Problems:

VII. MONITORING

Monitoring Devices and Data:

Sampling Frequency and Water Quality Parameters Measured:

Frequency of Measuring Water Levels and Hydrostatic Head:

Contingency Plan for Well Failure During Operation:

Construction Requirements:

Monitoring Requirements:

Restrictions on Operation Procedures:

Miscellaneous:

EPA REGION VI

Arkansas	= 629		Oklahoma	=	778
Louisiana	= 630		Texas	=	796
New Mexico	= 777				

[illegible]

[illegible]

[illegible]

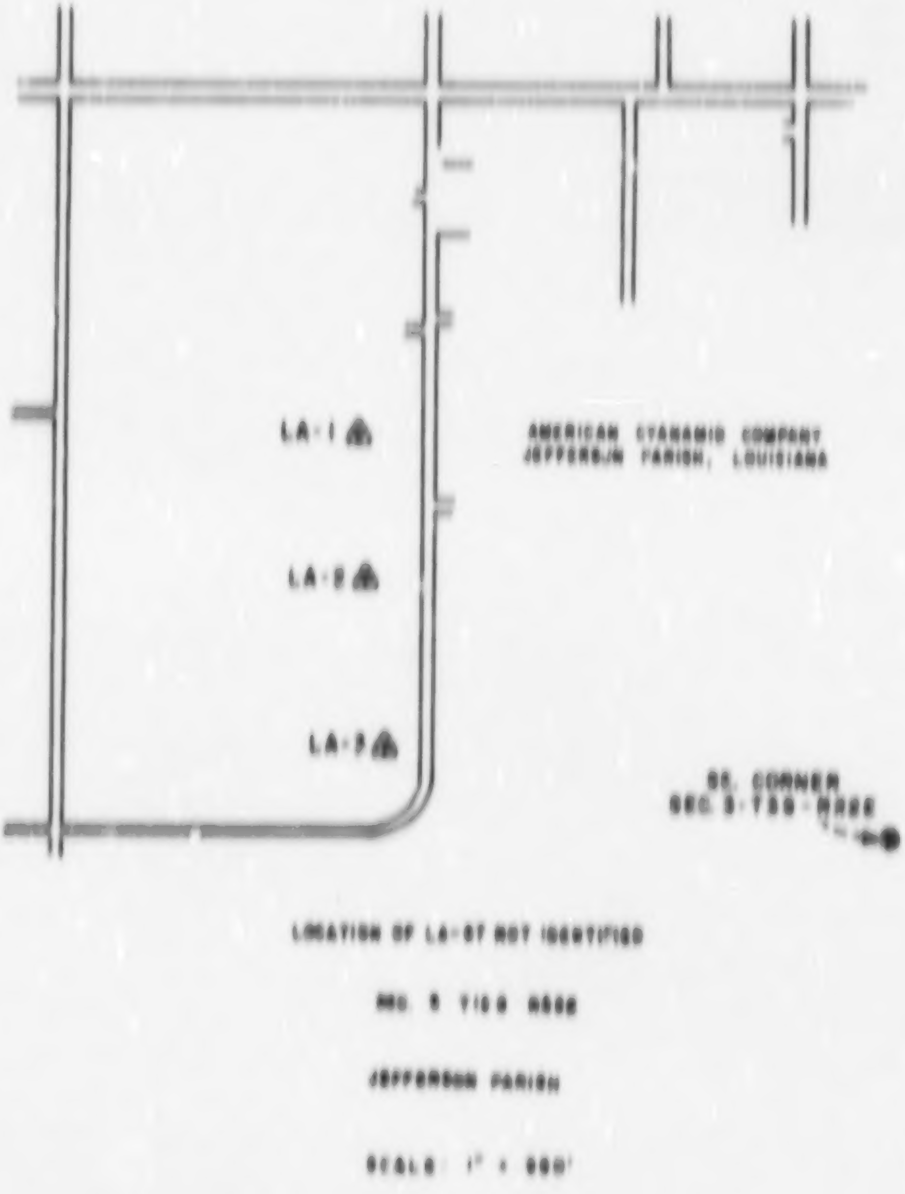


Figure 39. Location map of wells LA-1, 2, 3, 67

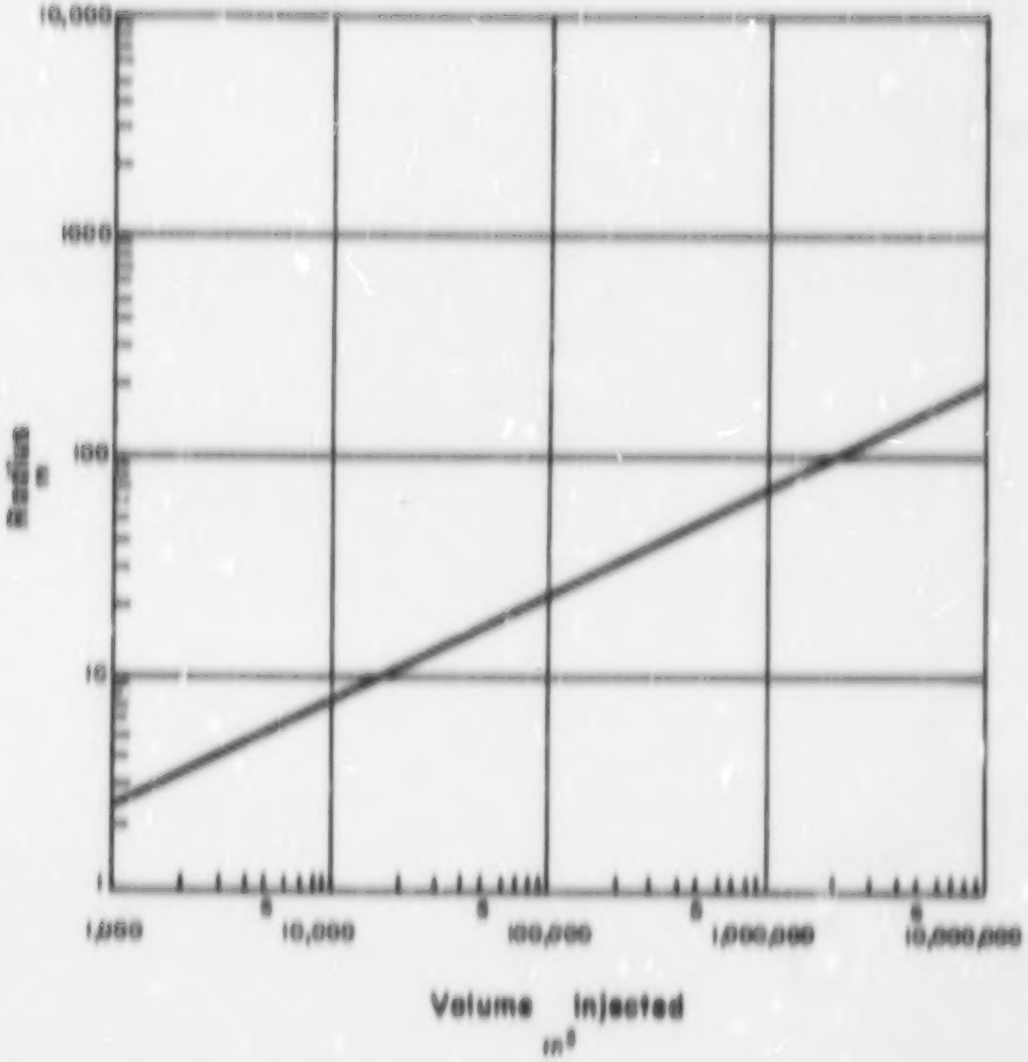


Figure 40. Radius of invasion for cell LA-1

OPERATING COMPANY: [illegible]
ADDRESS: [illegible]

OPERATIONAL STATUS: [illegible] REGION NO.: [illegible]
PERMIT STATUS: [illegible] WELL FILE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

Type of Waste Injected: [illegible]

[illegible]

III. GEOLOGIC INFORMATION

[illegible]

Physical Characteristics of Formation Fluid: [illegible]

Hydrogeology of Fresh Water Aquifers in Vicinity:

Name	Depth	Thickness	Lithology	Fluid Character
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Mineral Resources in Area: Oil and gas production

Location of other wells in the affected area: [illegible]

IV. WASTE CHARACTERISTICS

Chemical Description: [illegible]

[illegible]

Compatibility with Surface Equipment:

Radioactivity Level and Data:

Biological Level Before and After Injection (Est.):

Pre-Injection Waste Treatment: Settling and filtration

V. WELL DESIGN AND SURFACE EQUIPMENT

[illegible]

Type and Amount of Cement: [illegible]

Well Head Equipment: [illegible]

Subsurface Equipment: [illegible]

Completion Method: [illegible]

Plugging Record:

[illegible]

VI. OPERATING CHARACTERISTICS

Injection Rates: [illegible]

Injection Pressures: [illegible]

Operating History, Injection Problems: [illegible]

VII. MONITORING

Monitoring Devices and Data: [illegible]

Sampling Frequency and Water Quality Parameters Analyzed:

Frequency of Measuring Water Levels and Hydrostatic Heads:

Contingency Plan for Well Failure During Operation: [illegible]

Construction Requirements:

Monitoring Requirements:

Modifications to Operating Procedures:

[illegible]

Location: [illegible]

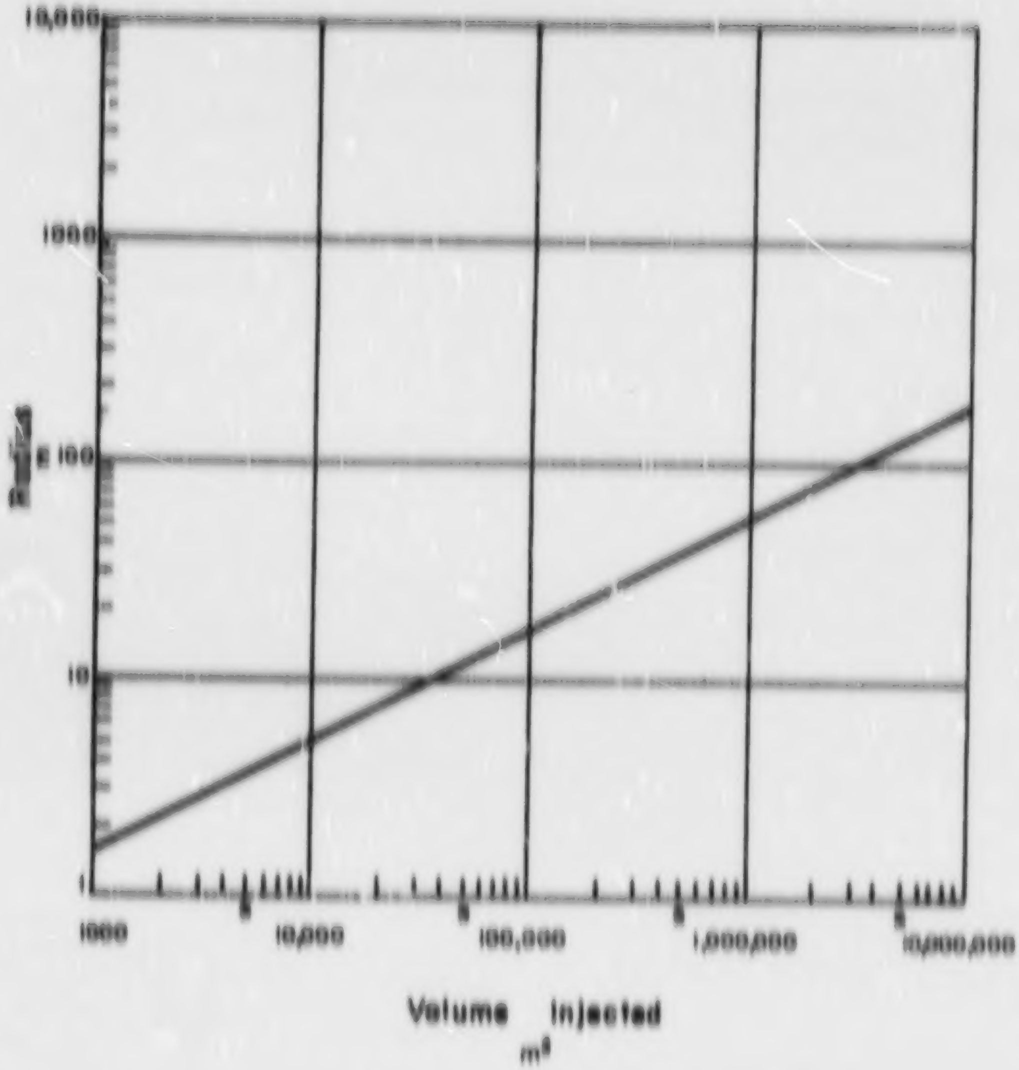


Figure 41. Radius of invasion for well LA-2

[redacted]

OPERATING COMPANY:

ADDRESS

OPERATIONAL STATUS:

PERMIT STATUS:

I. GENERAL IDENTIFICATION DATA

II. GENERAL WELL DATA

Type of Waste Injected:

Name, Age, and Depth of Injection Zone:

III. GEOLOGIC INFORMATION

Geological Description of Rock Units Penetrated by Well:

Name	Age	Depth	Thickness	Lithology
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Description of Injection Unit:

Name	Depth	Thickness	Lithology	Fluid Character
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Mineral Resources in Area:

Location of other wells in the affected area:

IV. WASTE CHARACTERISTICS

Chemical Description:

Reaction with Surface Equipment:

Degradability Level and Rate:

Biological Level Before and After Injection:

Pre-Injection Waste Treatment:

V. WELL DESIGN AND SURFACE EQUIPMENT

Type and Amount of Cement:

Subsurface Equipment:

Completion Method:

Holding Tanks and Flow Lines:

VI. OPERATING CHARACTERISTICS

Injection Rates:

Injection Pressure:

VII. MONITORING

Monitoring Devices and Data

Sampling Frequency and Water Quality Parameters Measured

Frequency of Measuring Water Levels and Hydrostatic Heads

Contingency Plan for Well Failure During Operation:

Construction Requirements:

Monitoring Requirements:

Specifications on Operating Procedures:

MISCELLANEOUS

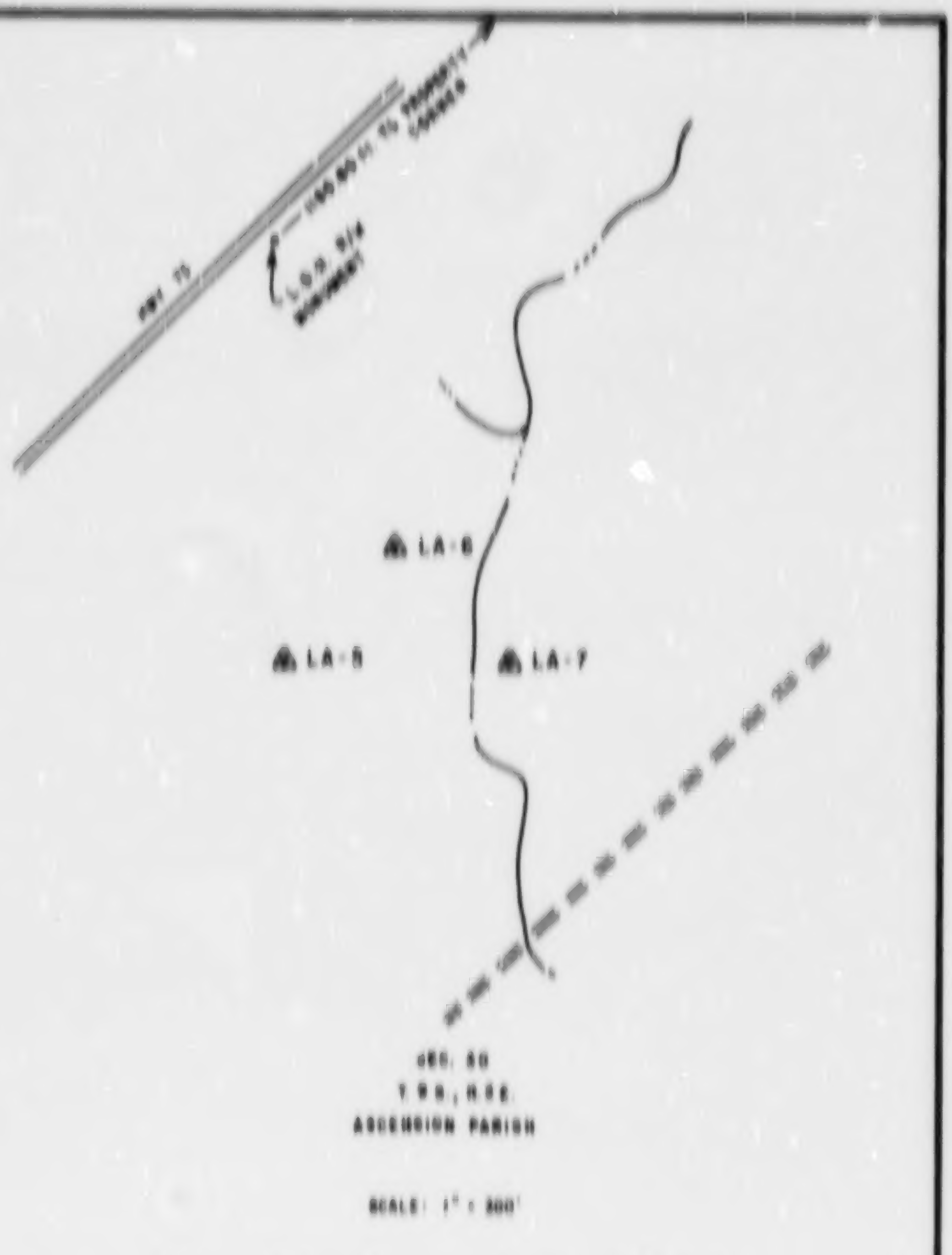


Figure 42. Location map of wells LA-5, 6, 7

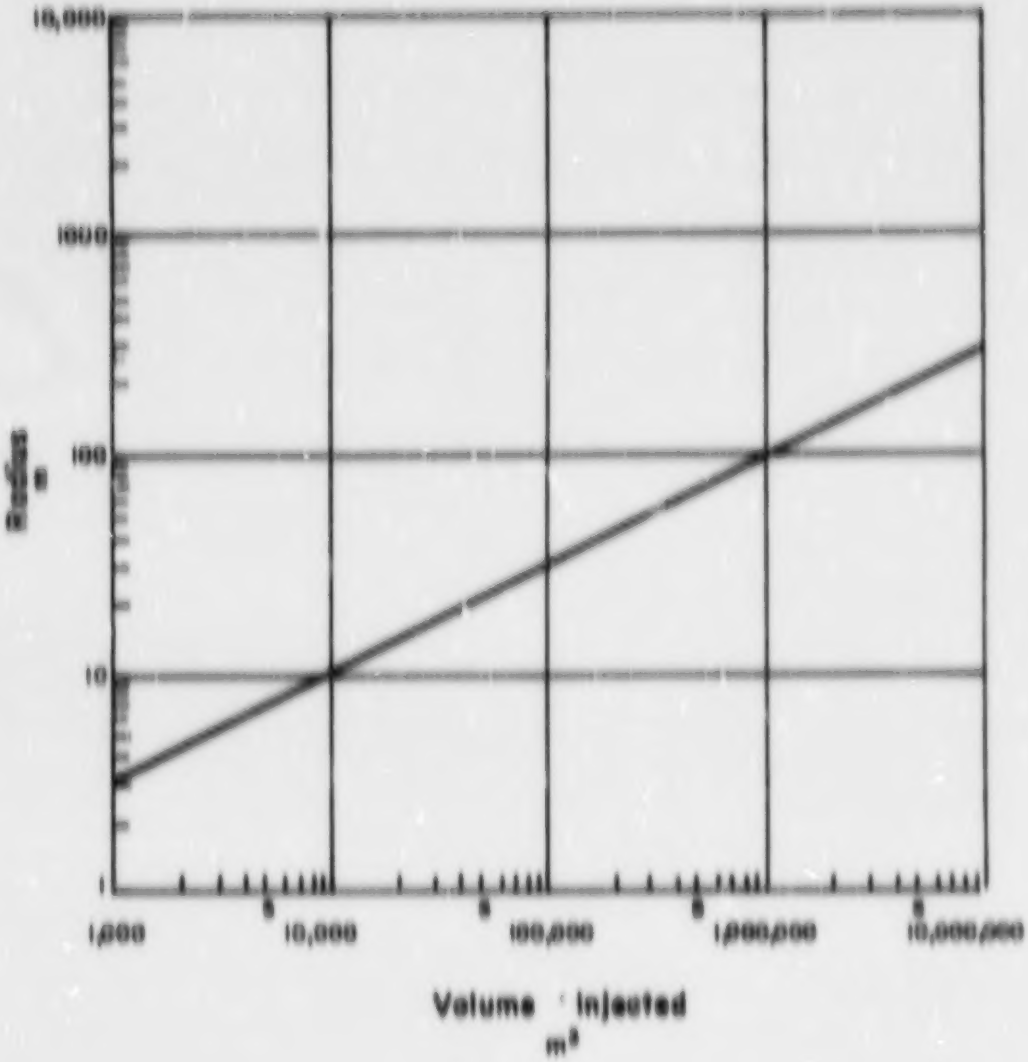


Figure 43. Radius of invasion for well LA-5

OPERATING COMPANY: [illegible]
ADDRESS: [illegible]

OPERATIONAL STATUS: [illegible] REGION NO.: [illegible]
PERMIT STATUS: [illegible] WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

Type of Waste Injected: [illegible]

Name, Age, and Depth of Injection Zone: [illegible]

III. GEOLOGIC INFORMATION

Geological Description of Rock Units Penetrated by Well:

Name	Age	Depth	Thickness	Lithology
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Description of Injection Unit:

[illegible]

Name	Depth	Thickness	Lithology	Fluid Character
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Mineral Resources in Area: [illegible]

Location of other wells in the Affected Area: [illegible]

IV. WASTE CHARACTERISTICS

Chemical Description:

[illegible]

Reaction with Surface Equipment:

Degradability Level and Rate:

Biological Level Before and After Injection (Not ?):

Pre-Injection Waste Treatment: [illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

[illegible]

Type and Amount of Cement: [illegible]

Well Head Equipment: [illegible]

Subsurface Equipment: [illegible]

Completion Method: [illegible]

Plugging Record:

Existing Bonds and Plan Insur.: [illegible]

[illegible]

VI. OPERATIONAL CHARACTERISTICS

Injection Rates: [illegible]

Injection Pressure: [illegible]

Operating History and/or Problems:

VII. MONITORING

Monitoring Devices and Data:

Sampling Frequency and Water Quality Parameters Measured:

Frequency of Observing Water Levels and Hydrostatic Heads:

Contingency Plan for Well Failure During Operation: [illegible]

Construction Requirements: [illegible]

Monitoring Requirements: [illegible]

Modifications or Operation Procedures:

MISCELLANEOUS

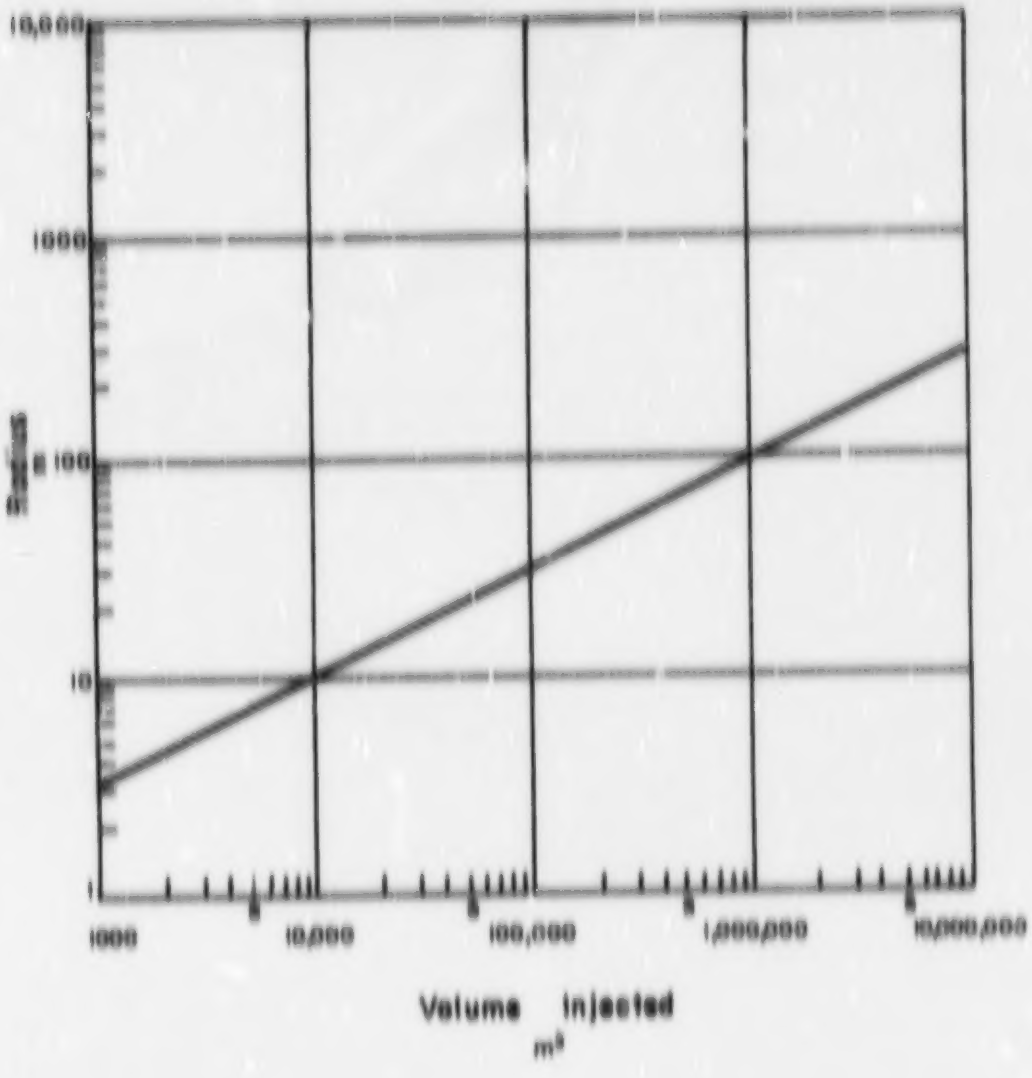


Figure 44. Radius of invasion for well LA-6

OPERATING COMPANY: [illegible]
ADDRESS: [illegible]

OPERATIONAL STATUS: [illegible]
PERMIT STATUS: [illegible]
REGION NO.: [illegible]
WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

Type of Waste Injected: [illegible]

Name, Age, and Depth of Injection Zone: [illegible]

[illegible]

III. GEOLOGIC INFORMATION

Geological Description of Rock Units Penetrated by Well:

Name	Age	Depth	Thickness	Lithology
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Description of Injection Unit:

	Injection Unit	Caprock
Name	[illegible]	[illegible]
Depth	[illegible]	[illegible]
Formation Fluid Pressure	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]

Geological and Hydrological Characteristics of Aquifers in Vicinity: [illegible]

Name	Depth	Thickness	Lithology	Fluid Character
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Mineral Resources in Area: [illegible]

Location of other wells in the Affected Area: [illegible]

IV. WASTE CHARACTERISTICS

Chemical Description: [illegible]

[illegible] Specific Gravity [illegible]

Reaction with Surface Equipment: [illegible]

Degradability Level and Rate: [illegible]

Biological Level Before and After Injection: [illegible]

Pre-Injection Waste Treatment: [illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

	Hole Size	Casing, Tubing Wt. & Grade	Size	Depth
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Type and Amount of Cement: [illegible]

Well Head Equipment: [illegible]

Subsurface Equipment: [illegible]

Completion Method: [illegible]

Logging Record: [illegible]

Drilling Tests and Plug Steps: [illegible]

Total Cost of Well/System: [illegible]

VI. OPERATION CHARACTERISTICS

Injection Rates: [illegible]

Injection Pressure: [illegible]

[illegible]

VII. MONITORING

Monitoring Devices and Data: [illegible]

Sampling Frequency and Water Quality Parameters Measured: [illegible]

Frequency of Measuring Water Levels and Hydrostatic Heads: [illegible]

Contingency Plan for Well Failure During Operation: [illegible]

Abandonment Requirements: [illegible]

Plugging Requirements: [illegible]

Incidents or Operation Procedures: [illegible]

REFERENCES

[illegible]

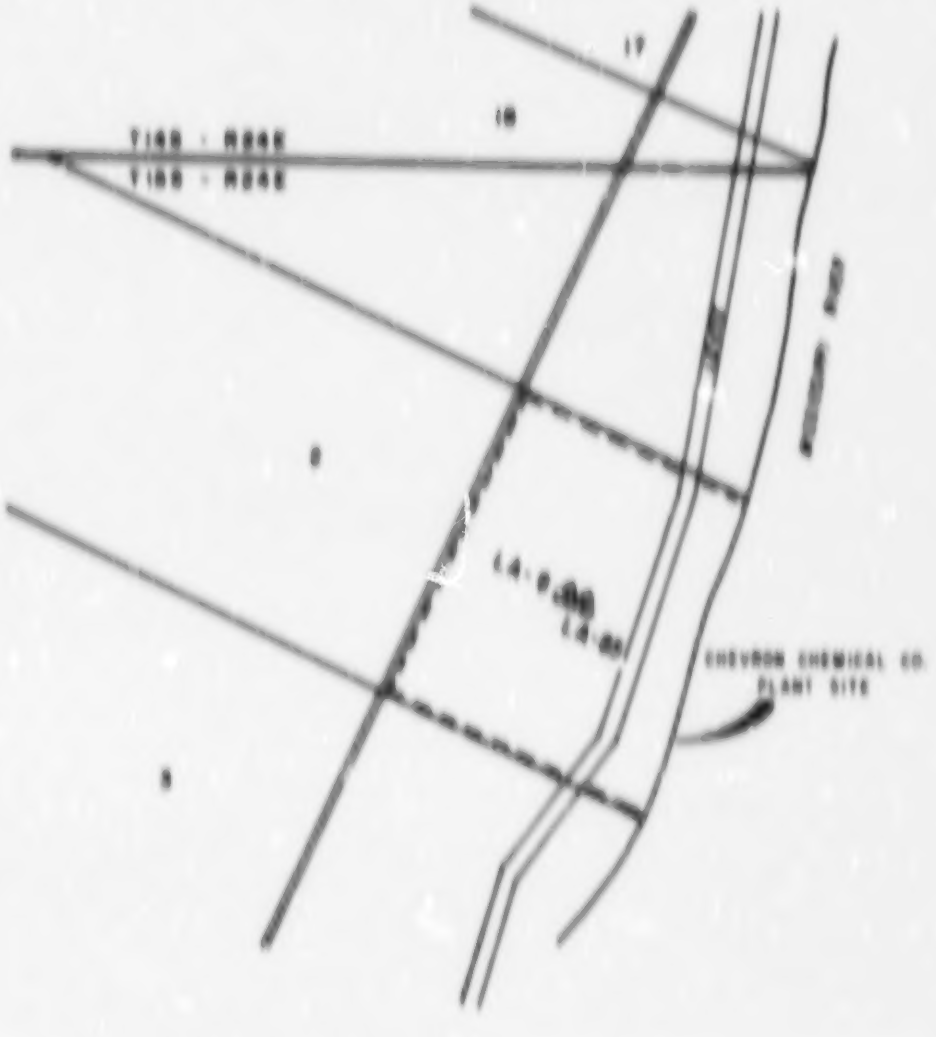


Figure 40. Location map of wells LA-B and B5

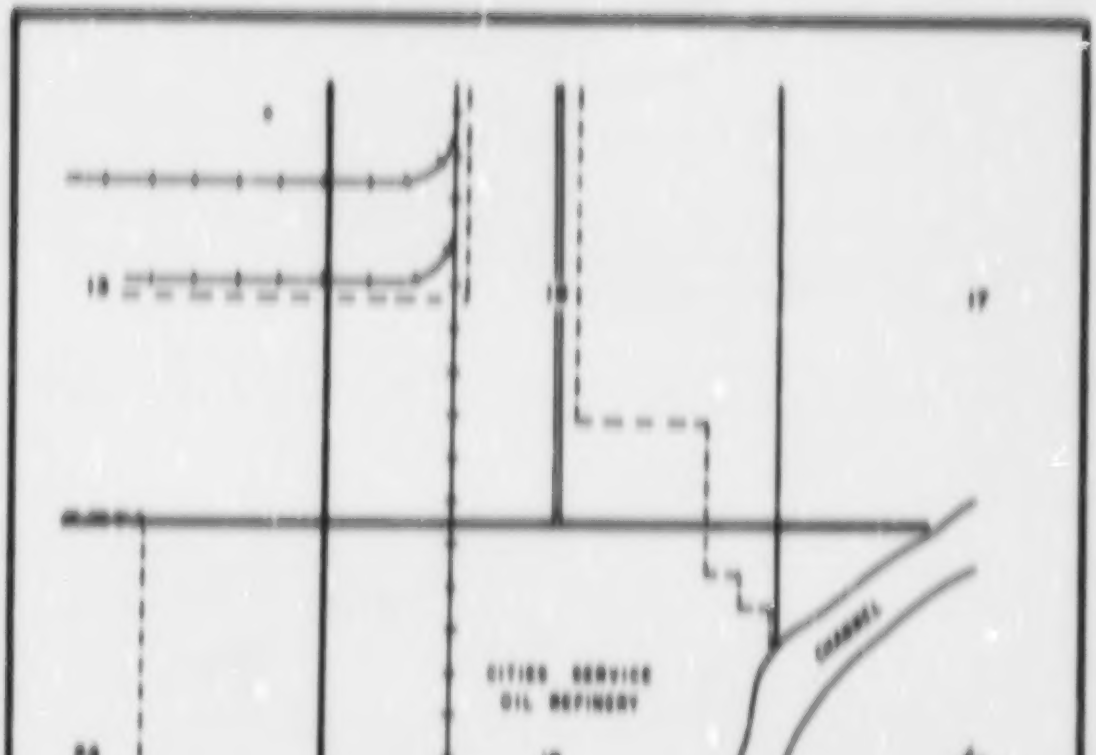


Figure 46. Location map of wells LA-9 and 10

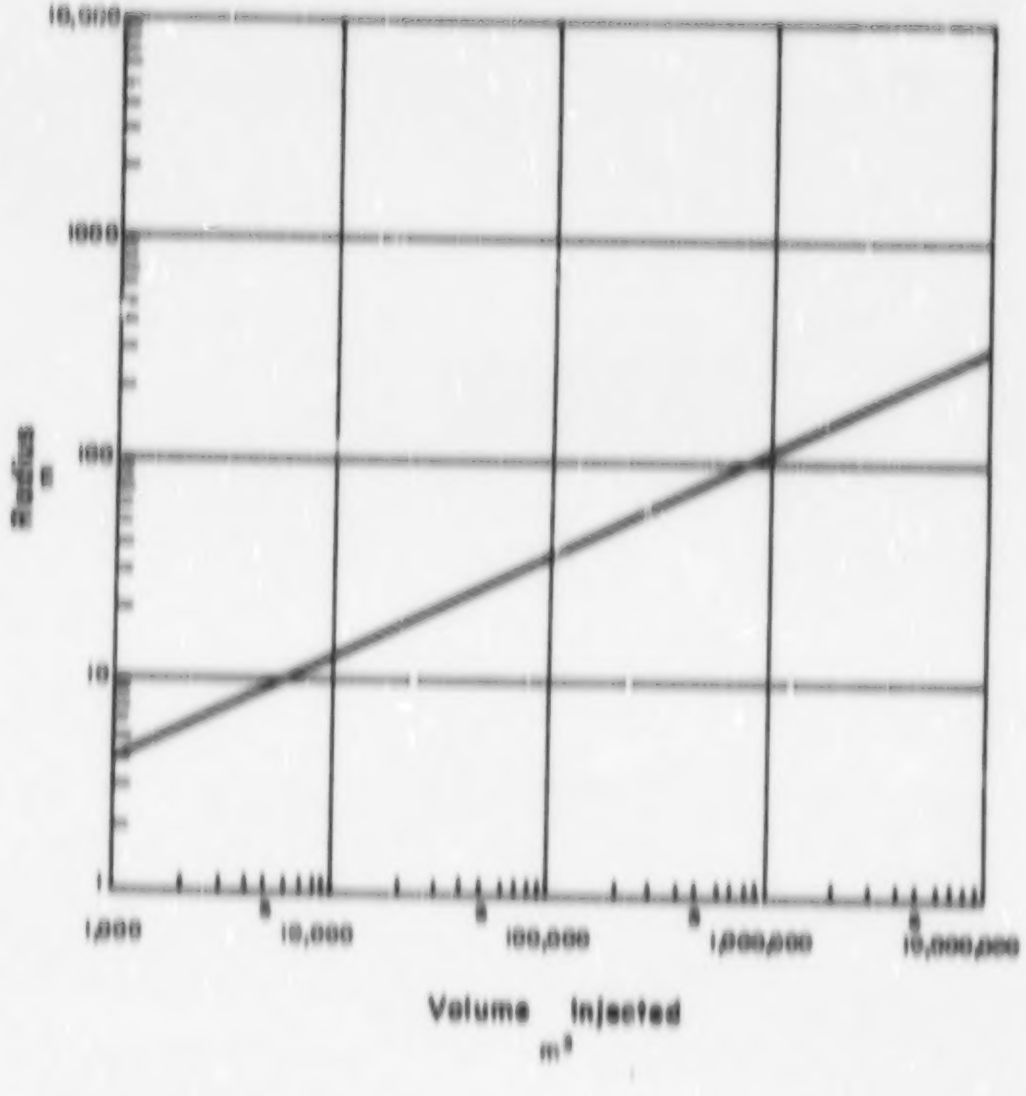


Figure 47. Radius of invasion for well LA-10

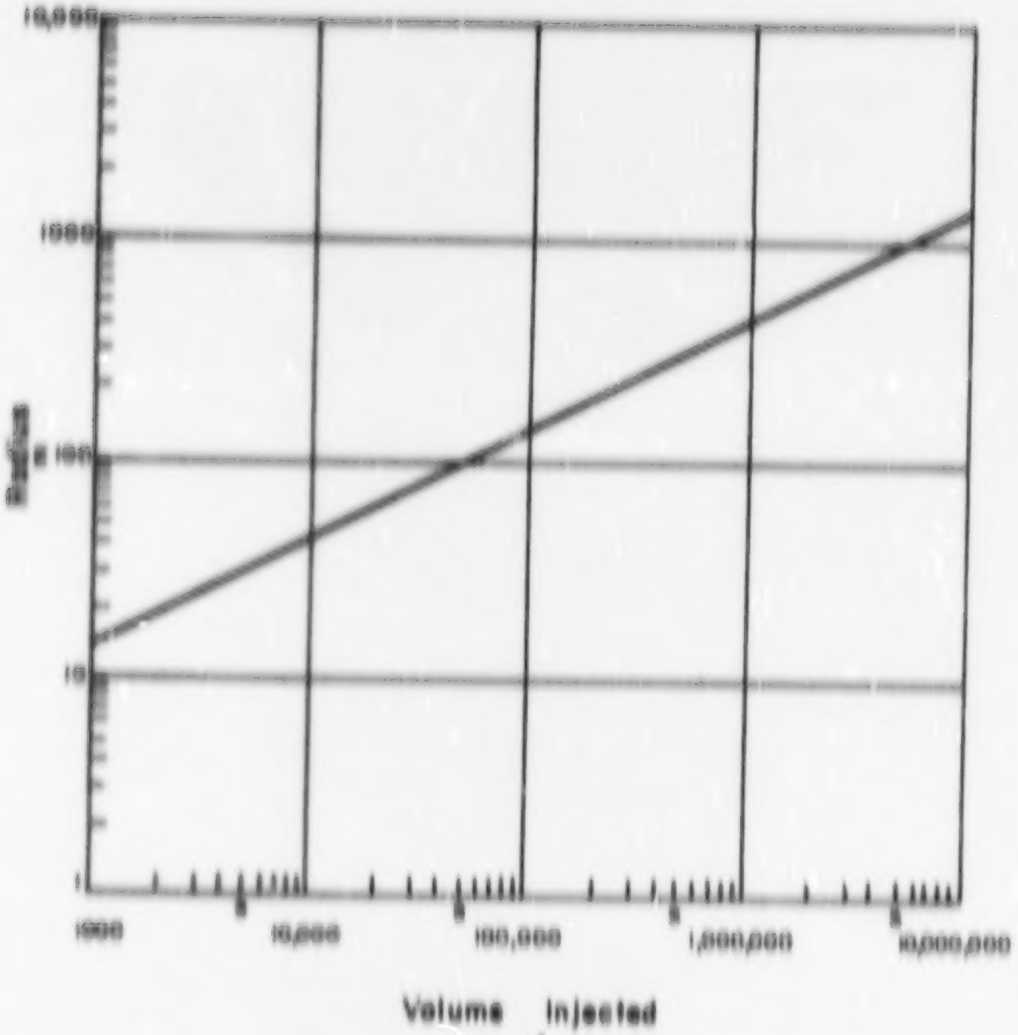


Figure 48. Radius of invasion for well LA-11

[illegible]

[illegible]

[illegible]

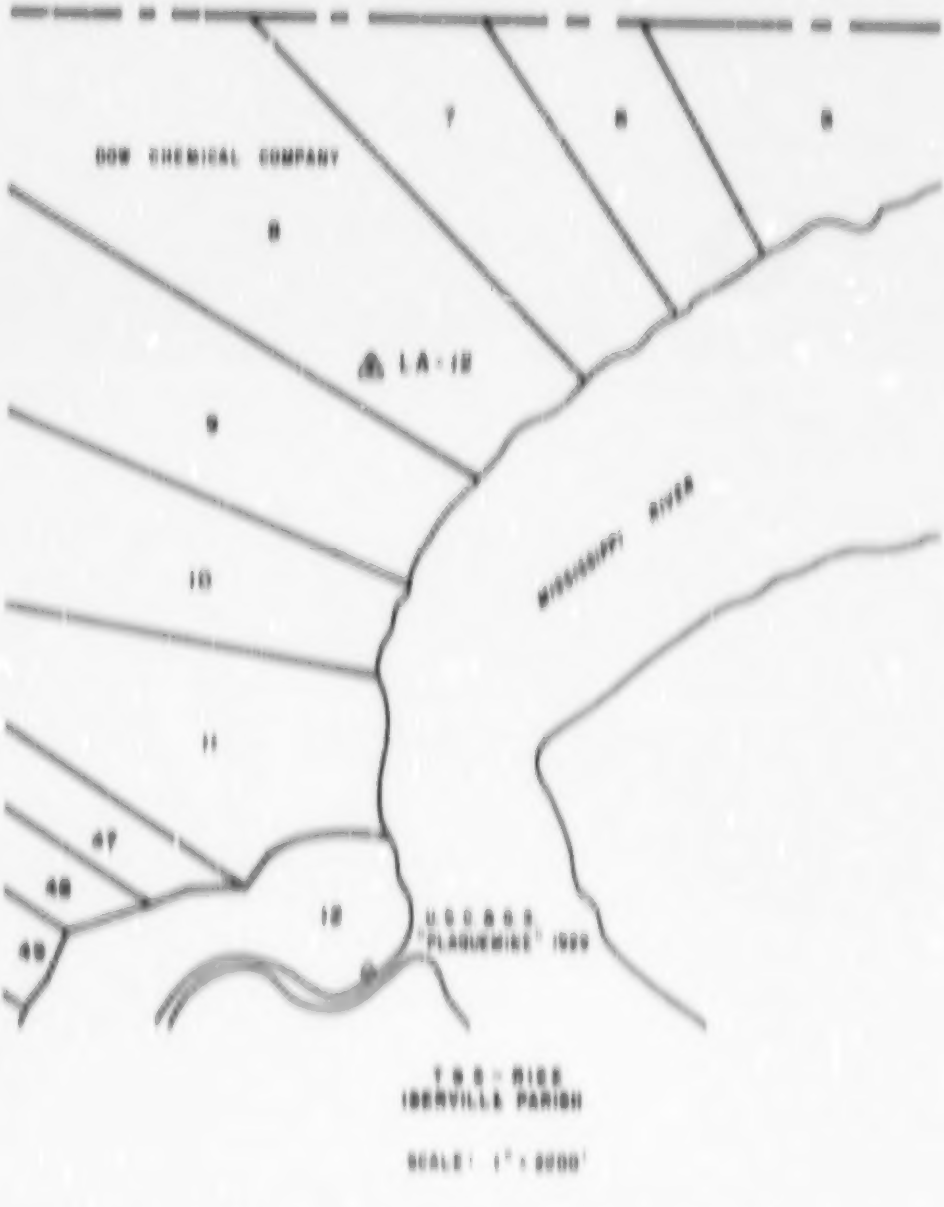


Figure 49. Location map of well LA-12

OPERATING COMPANY: [illegible]
ADDRESS: [illegible]

OPERATIONAL STATUS: [illegible] REGION NO.: [illegible]
PERMIT STATUS: [illegible] WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

[illegible]

III. GEOLOGIC INFORMATION

[illegible]

IV. WASTE CHARACTERISTICS

[illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

[illegible]

VI. OPERATING CHARACTERISTICS

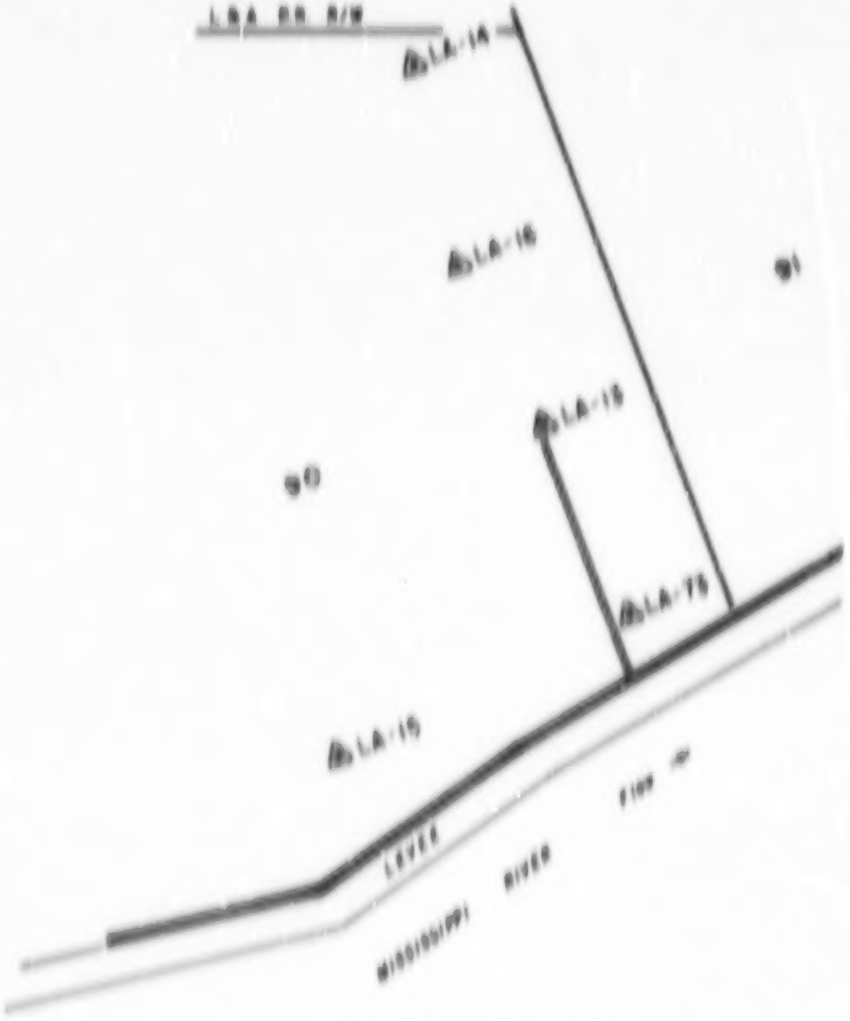
[illegible]

VII. MONITORING

[illegible]

REFERENCES

[illegible]



T11S - R7E
ST JOHN THE BAPTIST PARISH

THE EXACT LOCATION OF LA-17 & 18 IS NOT ESTABLISHED

SCALE: 1" = 500'

Figure 50. Location map of wells LA-13,14,15,16,17,18,73

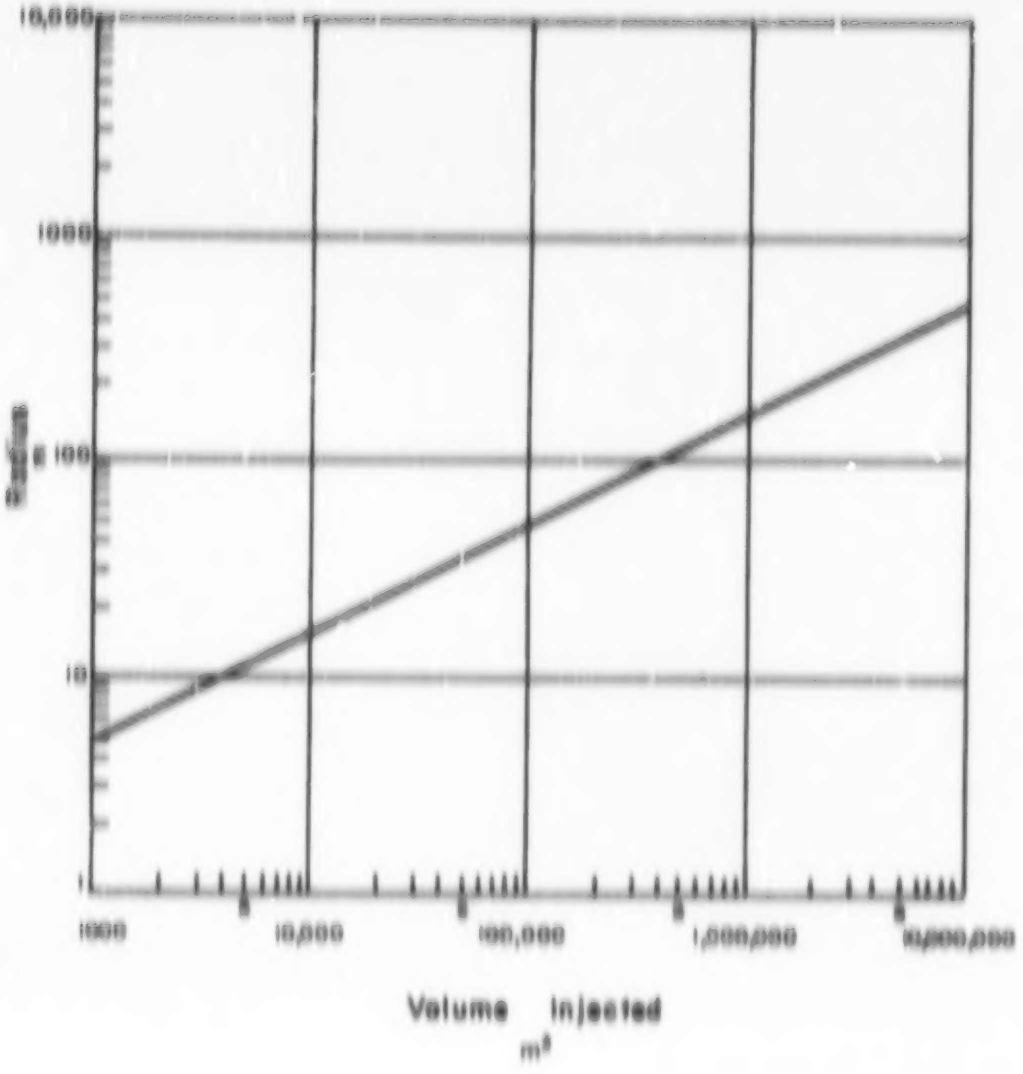


Figure 51. Radius of invasion for well LA-14

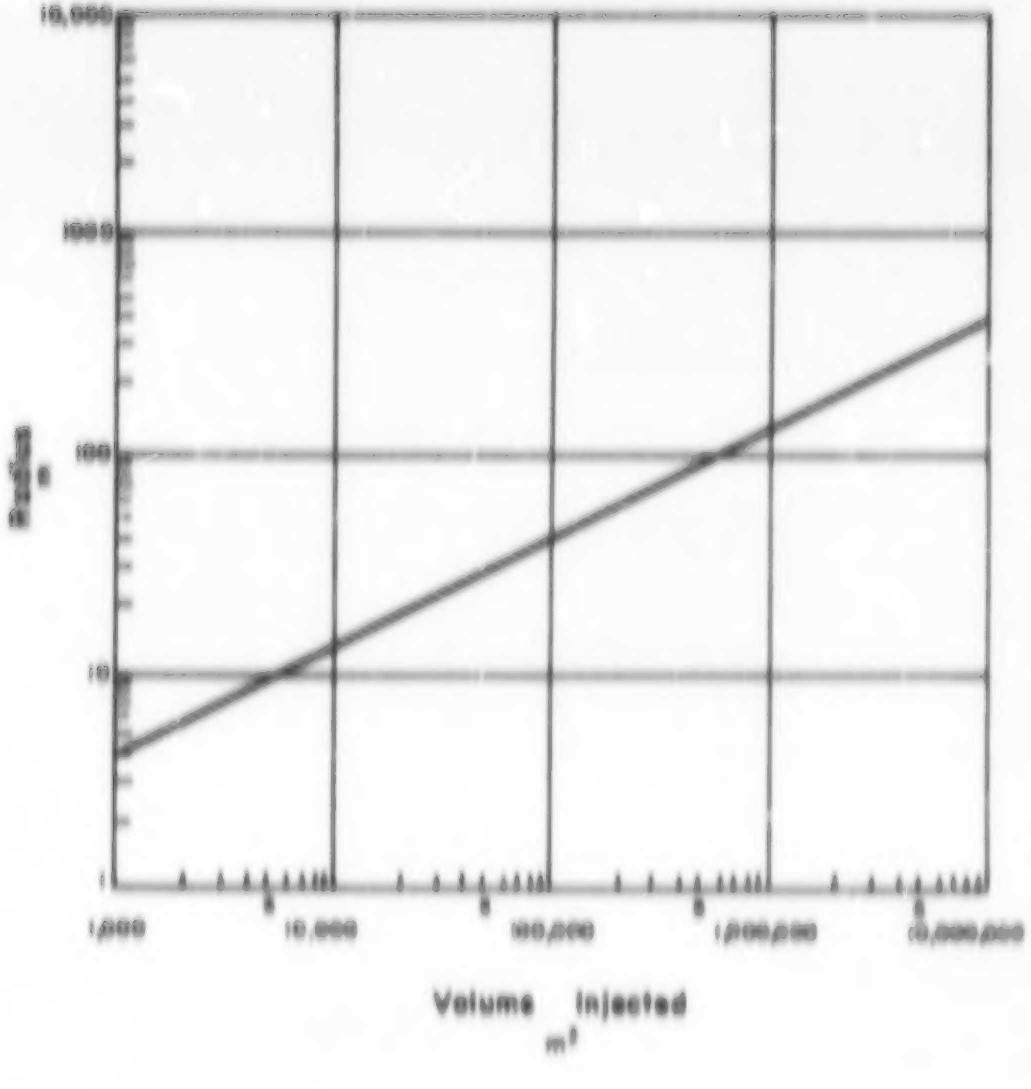


Figure 52. Radius of invasion for well LA-15

[illegible]

[illegible]

[illegible]

OPERATING COMPANY: [illegible]
ADDRESS: [illegible]

OPERATIONAL STATUS: [illegible] REGION NO.: [illegible]
PERMIT STATUS: [illegible] WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

[illegible]

III. GEOLOGIC INFORMATION

Geological Description of Rock Units Penetrated by Well:

Name	Age	Depth	Thickness	Lithology
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Description of Injection Unit:

[illegible]

Name	Depth	Thickness	Lithology	Fluid Character
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Mineral Resources in Area: [illegible]

Location of other wells in the Affected Area: [illegible]

IV. WASTE CHARACTERISTICS

Technical Description: [illegible]

[illegible]

Reaction with Surface Equipment: [illegible]

Degradability Level and Rate: [illegible]

Biological Level Before and After Injection: [illegible]

Pre-Injection Waste Treatment: [illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

[illegible]

VI. OPERATING CHARACTERISTICS

[illegible]

VII. MONITORING

[illegible]

Sampling Frequency and Water Quality Parameters Measured: [illegible]

Frequency of Reporting Water Levels and Hydrostatic Heads: [illegible]

Contingency Plan for Well Failure During Operation: [illegible]

Abandonment Requirements: [illegible]

Monitoring Requirements: [illegible]

Restrictions on Operating Procedures: [illegible]

[illegible]

[illegible]

[redacted]

OPERATING COMPANY: [illegible]
ADDRESS: [illegible]

OPERATIONAL STATUS: [illegible] REGION NO.: [illegible]
PERMIT STATUS: [illegible] WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

[illegible]

III. GEOLOGIC INFORMATION

Geological Description of Rock Units Penetrated by Well:

Name	Age	Depth	Thickness	Lithology
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Description of Injection Unit:

[illegible]

[illegible]

IV. WASTE CHARACTERISTICS

[illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

[illegible]

VI. OPERATION CHARACTERISTICS

[illegible]

VII. MONITORING

[illegible]

MISCELLANEOUS

[illegible]

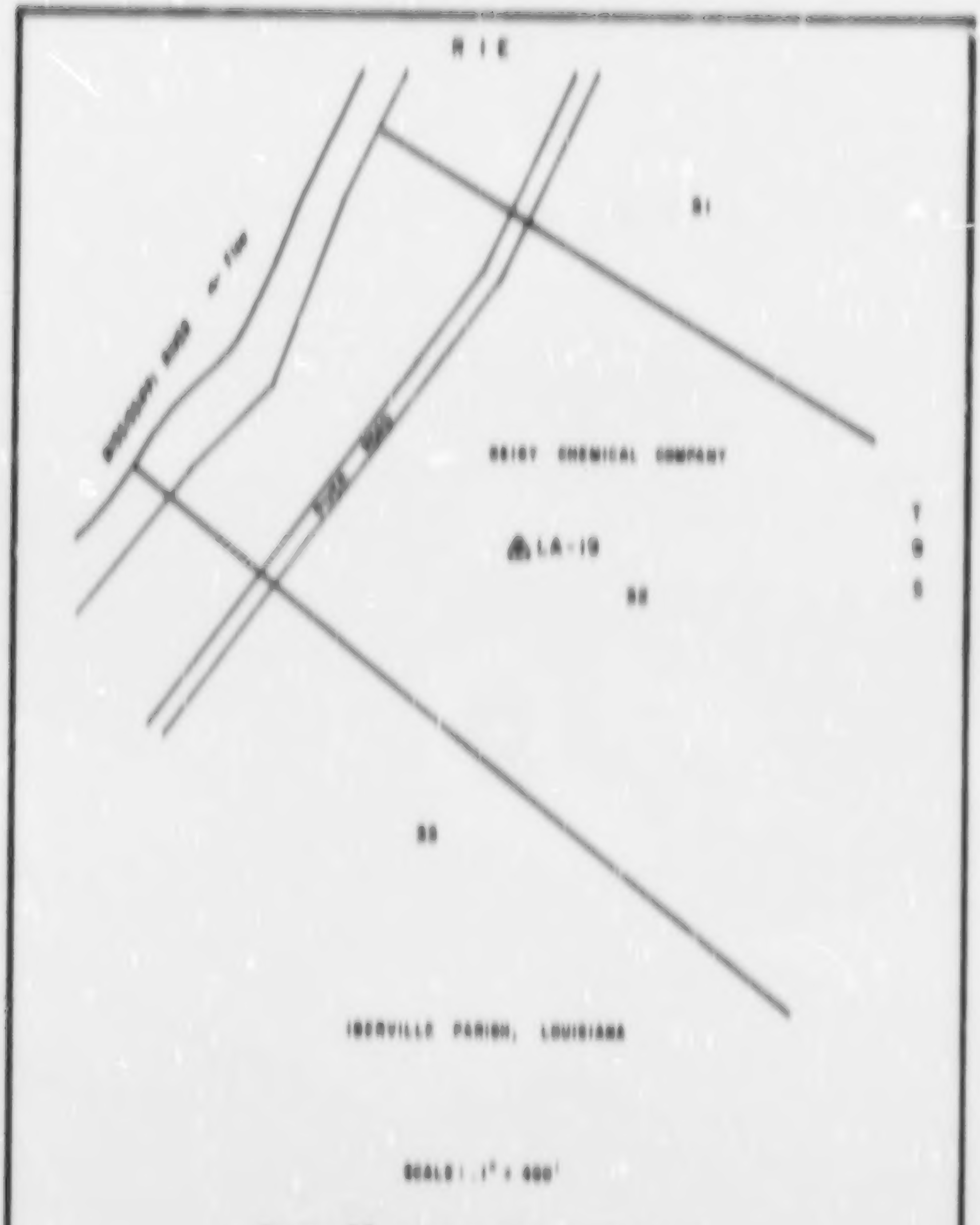


Figure 53 Location map of well LA-19

OPERATING COMPANY: [illegible]
ADDRESS: [illegible]

OPERATIONAL STATUS: [illegible] REGION NO.: [illegible]
PERMIT STATUS: [illegible] WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

[illegible]

III. GEOLOGIC INFORMATION

Geological Description of Rock Units Penetrated by Well:

Name	Age	Depth	Thickness	Lithology
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Description of Injection Unit

	Injection Unit	Caprock
[illegible]	[illegible]	[illegible]

[illegible]

Name	Depth	Thickness	Lithology	Fluid Character
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Mineral Resources in Area: [illegible]

Location of other wells in the Affected Area: [illegible]

IV. WASTE CHARACTERISTICS

[illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

[illegible]

VI. OPERATING CHARACTERISTICS

[illegible]

VII. MONITORING

[illegible]

MISCELLANEOUS

[illegible]

[illegible]

[illegible]

[illegible]

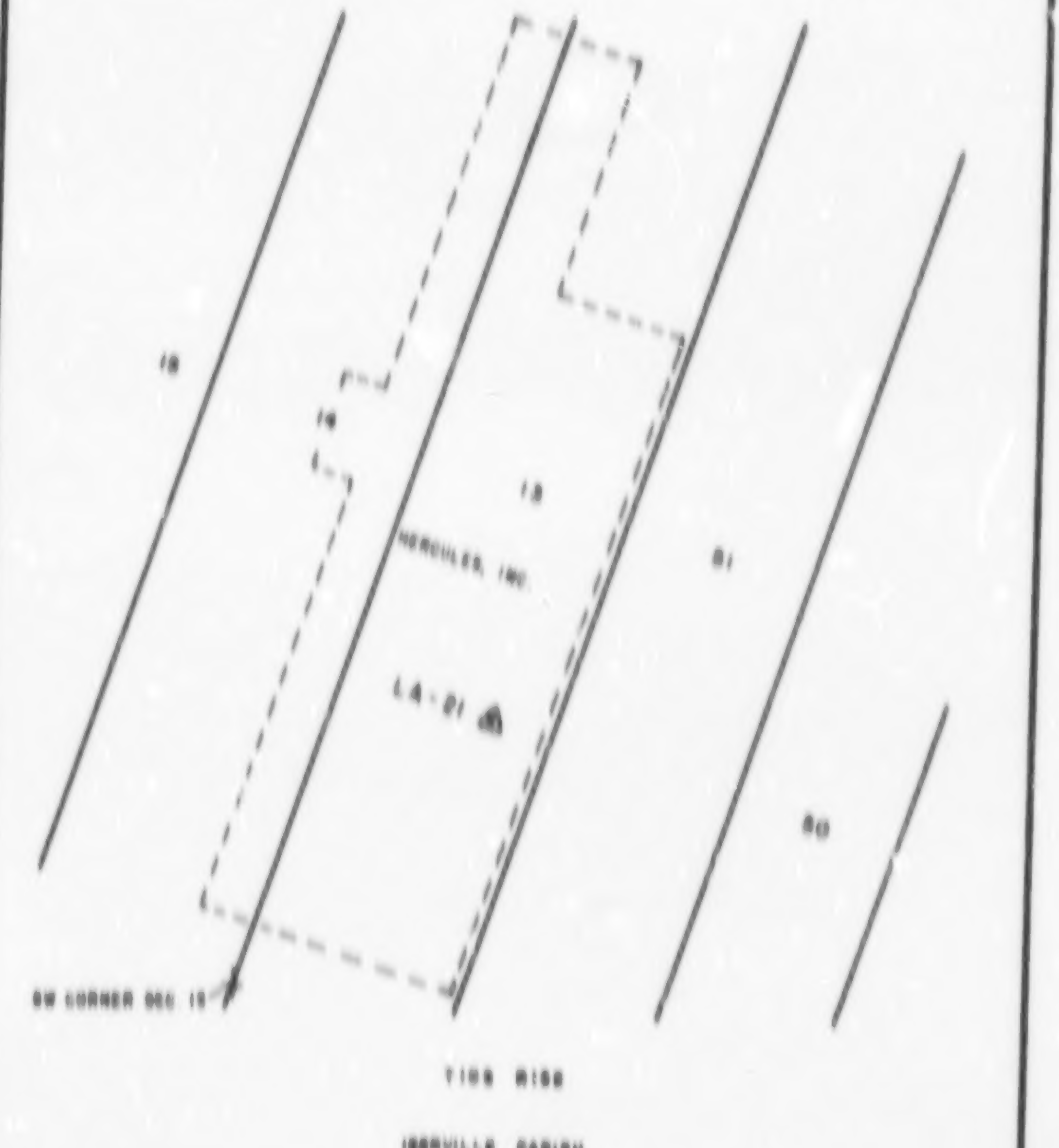


Figure 84. Location map of well LA-21

OPERATING COMPANY: [illegible]
ADDRESS: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

[illegible]

III. GEOLOGIC INFORMATION

[illegible]

IV. WASTE CHARACTERISTICS

[illegible]

Reaction with Surface Equipment: [illegible]

Degradability Level and Rate: [illegible]

Biological Level Before and After Injection: [illegible]

Pre-Injection Waste Treatment: [illegible]

OPERATIONAL STATUS: [illegible] REGION NO.: [illegible]
PERMIT STATUS: [illegible] WELL TYPE: [illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

[illegible]

VI. OPERATING CHARACTERISTICS

[illegible]

VII. MONITORING

Monitoring Devices and Data: [illegible]

Sampling Frequency and Water Quality Parameters Measured: [illegible]

Frequency of [illegible] Tests and [illegible]: [illegible]

Contingency Plan for Well Failure During Operation: [illegible]

[illegible]

[illegible]

Specifications of Operating Procedures: [illegible]

BIBLIOGRAPHY

[illegible]

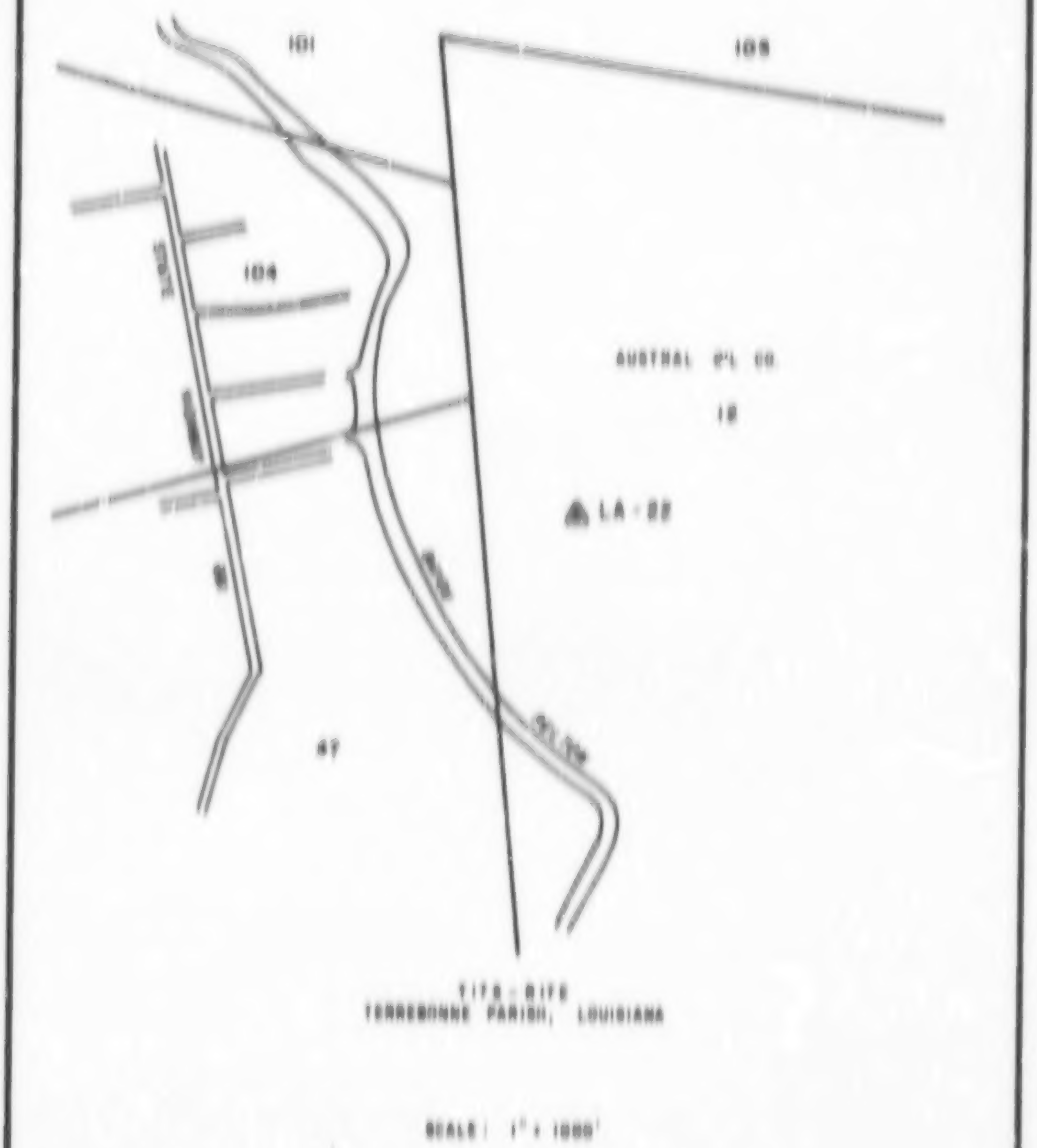


Figure 55. Location map of well LA-22

OPERATING COMPANY:
ADDRESS:

OPERATIONAL STATUS:
PERMIT STATUS:

I. GENERAL IDENTIFICATION DATA

II. GENERAL WELL DATA

Type of Waste Injected:

Name, Age, and Depth of Injection Zone:

Well Injection Ceased

III. GEOLOGIC INFORMATION

Geological Description of Rock Units Penetrated by Well:

Name	Age	Depth	Thickness	Lithology
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Description of Injection Unit:

	Injection Unit	Confining
[illegible]	[illegible]	[illegible]

Chemical Characteristics of Formation Fluid:

Hydrogeology of Fresh Water Aquifers in Vicinity:

Name	Depth	Thickness	Lithology	Fluid Use
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Mineral Resources in Area:

Location of other Wells in the Affected Area:

IV. WASTE CHARACTERISTICS

Chemical Description:

Radioactivity:

Suspended Solids:

Specific Gravity:

Toxicity:

Reaction with Surface Equipment:

Degradability Level and Rate:

Biological Level Before and After Injection Test:

Pre-Injection Waste Treatment:

V. WELL DESIGN AND SURFACE EQUIPMENT

Type and Amount of Cement:

Well Head Equipment:

Subsurface Equipment:

Completion Method:

Plugging Record:

Drilling Tests and Electric Logs:

Total Cost of Construction:

Operating Cost:

VI. OPERATING CHARACTERISTICS

Injection Rate:

Injection Pressure:

Operating Problems:

VII. MONITORING

Monitoring Devices and Data:

Sampling Frequency and Water Quality Parameters Measured:

Frequency of Measuring Water Levels and Hydrostatic Head:

Contingency Plan for Well Failure During Operation:

Construction Requirements:

Monitoring Requirements:

Restrictions or Operating Procedures:

MISCELLANEOUS

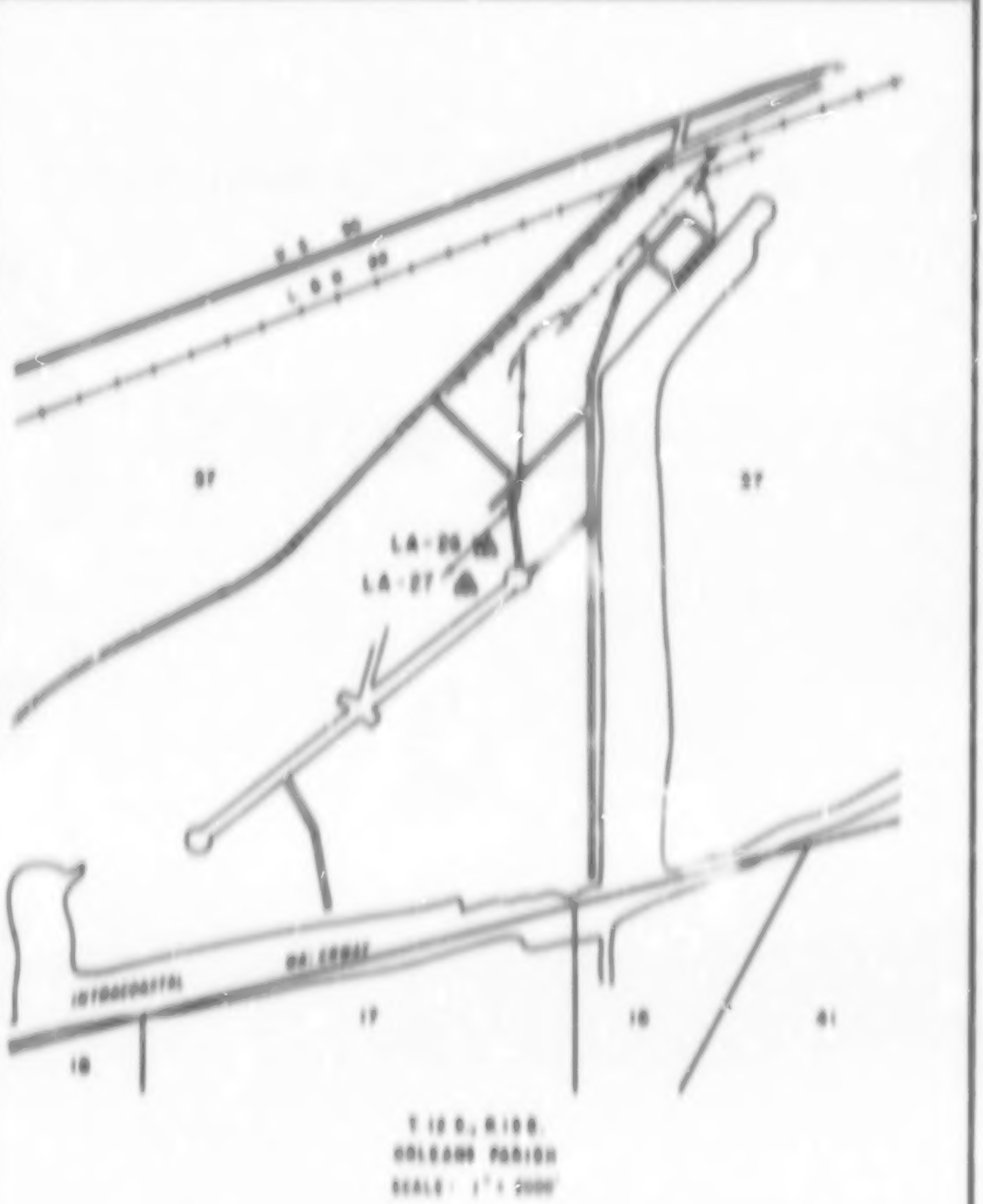
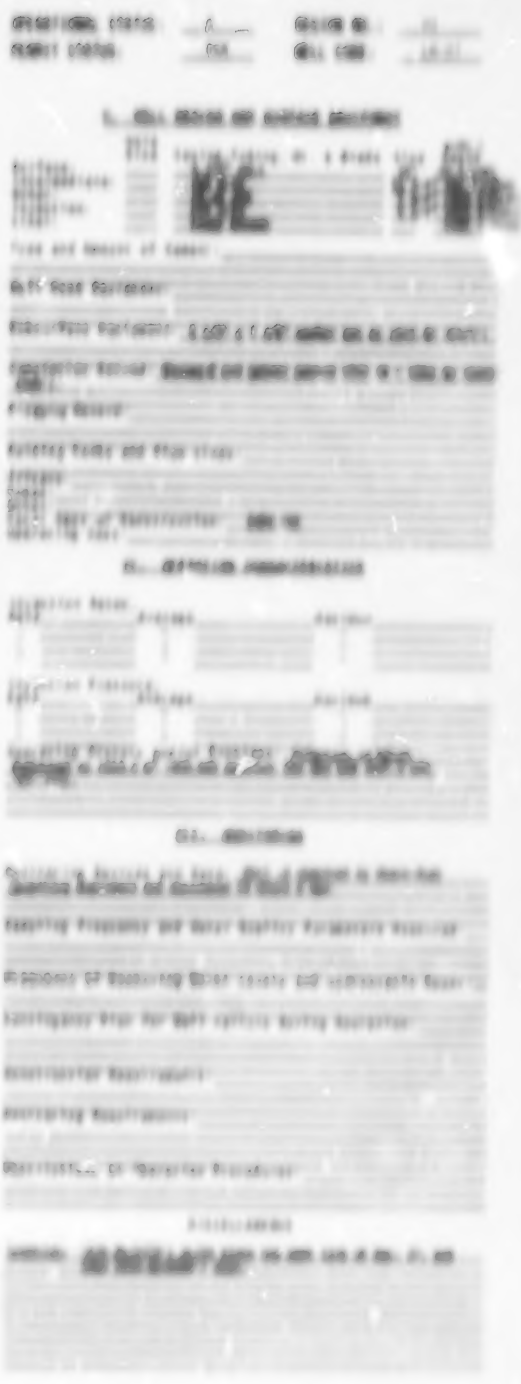


Figure 56. Location map of wells LA-26, 27



OPERATING COMPANY: [illegible]
ADDRESS: [illegible]

OPERATIONAL STATUS: [illegible] REGION NO.: [illegible]
PERMIT STATUS: [illegible] WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

[illegible]

III. GEOLOGIC INFORMATION

Geological Description of Rock Units Penetrated by Well:

Name	Age	Depth	Thickness	Lithology
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Description of Injection Unit: [illegible]

Geohydrology of Fresh Water Aquifers in Vicinity: [illegible]

Name	Depth	Thickness	Lithology	Fluid Character
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[illegible]

IV. WASTE CHARACTERISTICS

Chemical Description: [illegible]

[illegible]

Reaction with Surface Equipment: [illegible]

Degradability Level and Rate: [illegible]

Biological Level Before and After Injection: [illegible]

Pre-Injection Waste Treatment: [illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

[illegible]

Type and Amount of Cement: [illegible]

Well Head Equipment: [illegible]

Subsurface Equipment: [illegible]

Completion Method: [illegible]

Plugging Record: [illegible]

Holding Tanks and Flow Lines: [illegible]

[illegible]

VI. OPERATING CHARACTERISTICS

Injection Rates: [illegible]

Injection Pressure: [illegible]

[illegible]

VII. MONITORING

[illegible]

Sampling Frequency and Water Quality Parameters Measured: [illegible]

Frequency of Observing Water Levels and Subsurface Equipment: [illegible]

Contingency Plan for Well Failures During Operation: [illegible]

Abandonment Requirements: [illegible]

Monitoring Requirements: [illegible]

Modification of Operating Procedures: [illegible]

EVALUATION

[illegible]

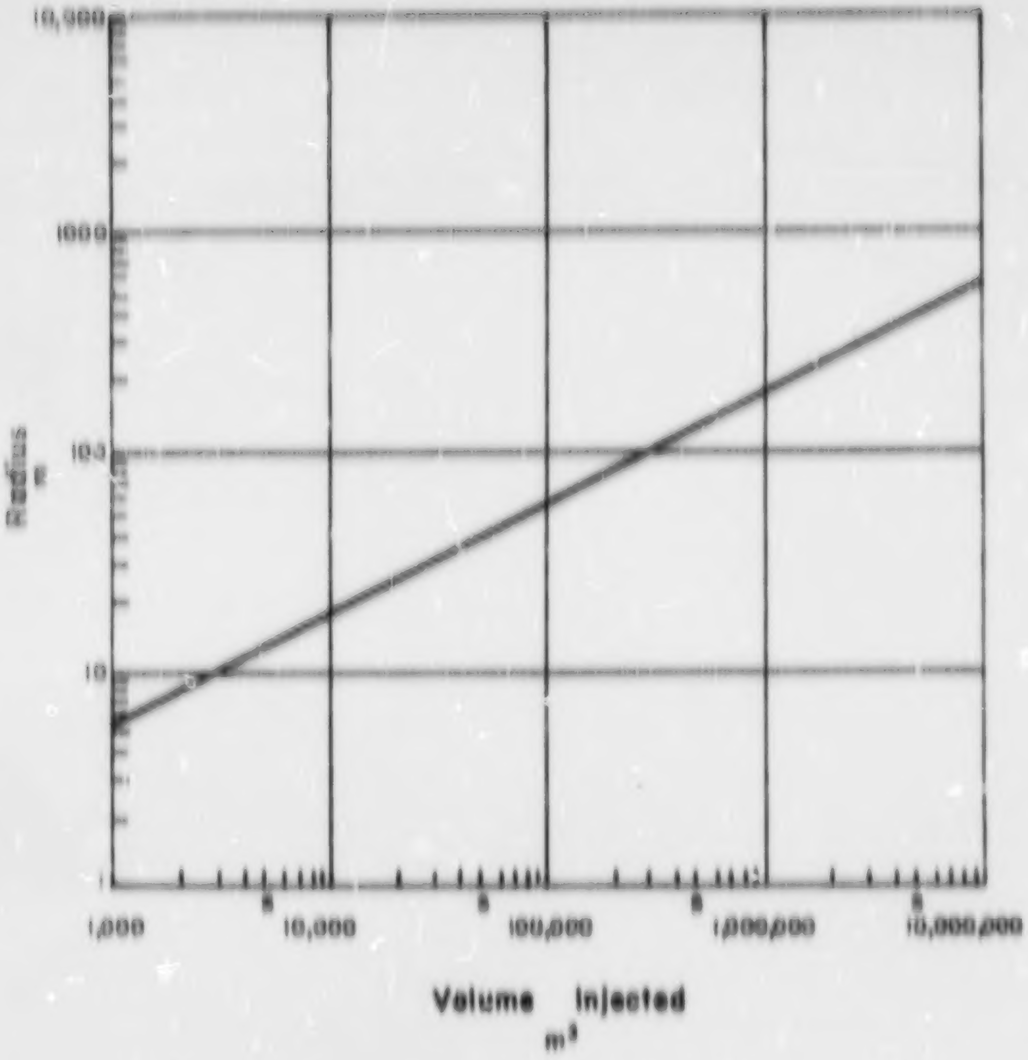


Figure 57. Radius of invasion for well LA-27

OPERATING COMPANY: [illegible]
ADDRESS: [illegible]

OPERATIONAL STATUS: [illegible]
PERMIT STATUS: [illegible]
REGION NO.: [illegible]
WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

Entry Date of Rule: [illegible]

II. GENERAL WELL DATA

Type of Waste Injected: [illegible]

Name, Age, and Depth of Injection Zone: [illegible]

III. GEOLOGIC INFORMATION

Geological Description of Rock Units Penetrated by Well:

Name	Age	Depth	Thickness	Lithology
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Description of Injection Unit:

	Injection Unit	Confining Unit
[illegible]	[illegible]	[illegible]

Hydrogeology of Fresh Water Aquifers in Vicinity:

Name	Depth	Thickness	Lithology	Fluid Character
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Mineral Resources in Area: [illegible]

Location of Other Wells in the Affected Area: [illegible]

IV. WASTE CHARACTERISTICS

Chemical Description: [illegible]

Reaction with Surface Equipment: [illegible]

Degradability Level and Rate: [illegible]

Biological Level Before and After Injection: [illegible]

Pre-Injection Waste Treatment: [illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

	Hole Size	Casing-Tubing Wt. & Grade	Size	Depth
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Type and Amount of Cement: [illegible]

Well Head Equipment: [illegible]

Subsurface Equipment: [illegible]

Completion Method: [illegible]

Plugging Record: [illegible]

Holding Tanks and Flow Lines: [illegible]

Total Cost of Construction: [illegible]

VI. OPERATING CHARACTERISTICS

Injection Rates: [illegible]

Injection Pressure: [illegible]

Operating History and/or Problems: [illegible]

VII. MONITORING

Monitoring Devices and Data: [illegible]

Sampling Frequency and Water Quality Parameters Measured: [illegible]

Frequency of Measuring Water Levels and Hydrostatic Heads: [illegible]

Contingency Plan for Well Failure During Operation: [illegible]

Construction Requirements: [illegible]

Monitoring Requirements: [illegible]

Restrictions on Operation Procedures: [illegible]

Miscellaneous

[illegible]

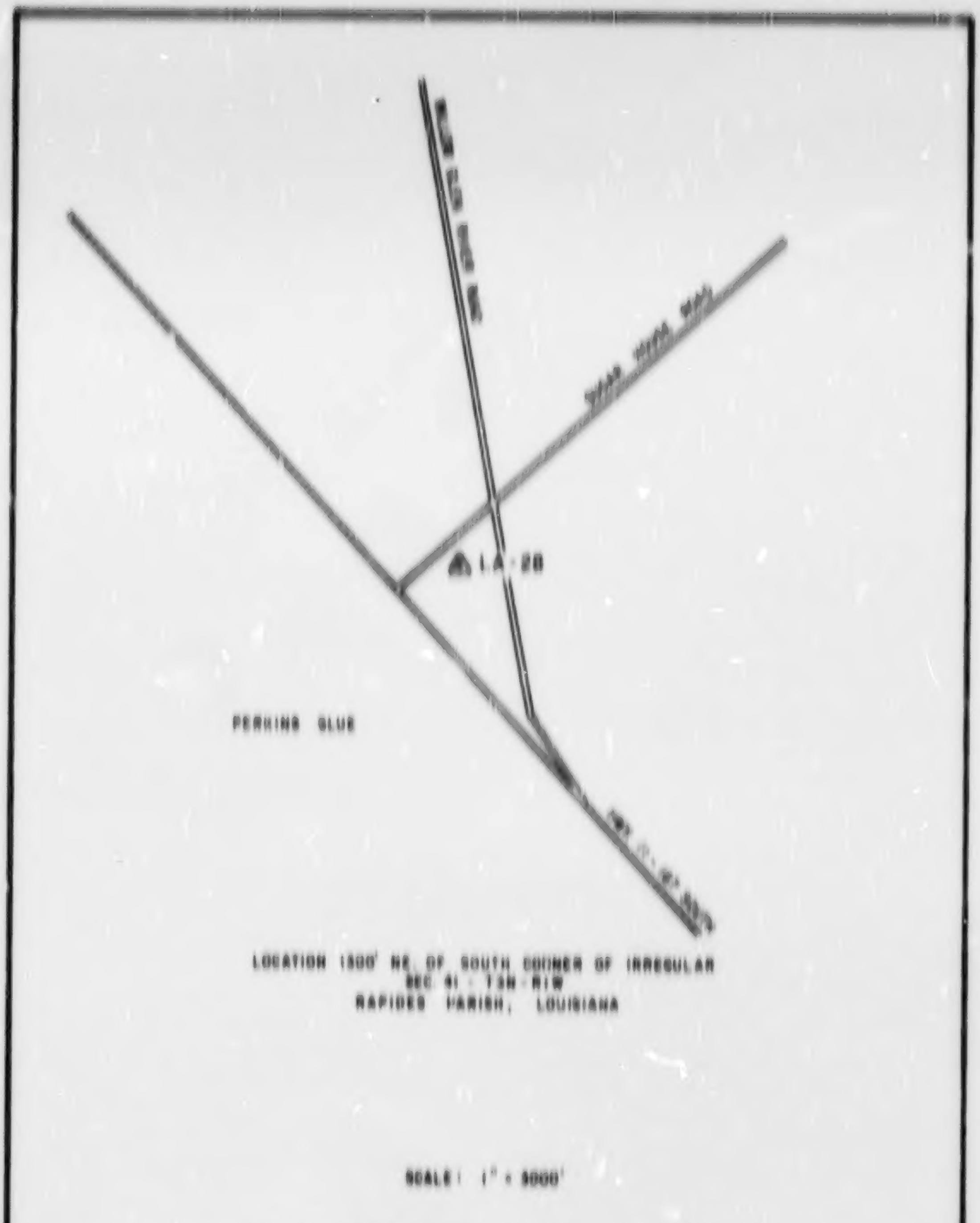


Figure 58. Location map of well LA-28

[redacted]

[redacted]

[redacted]

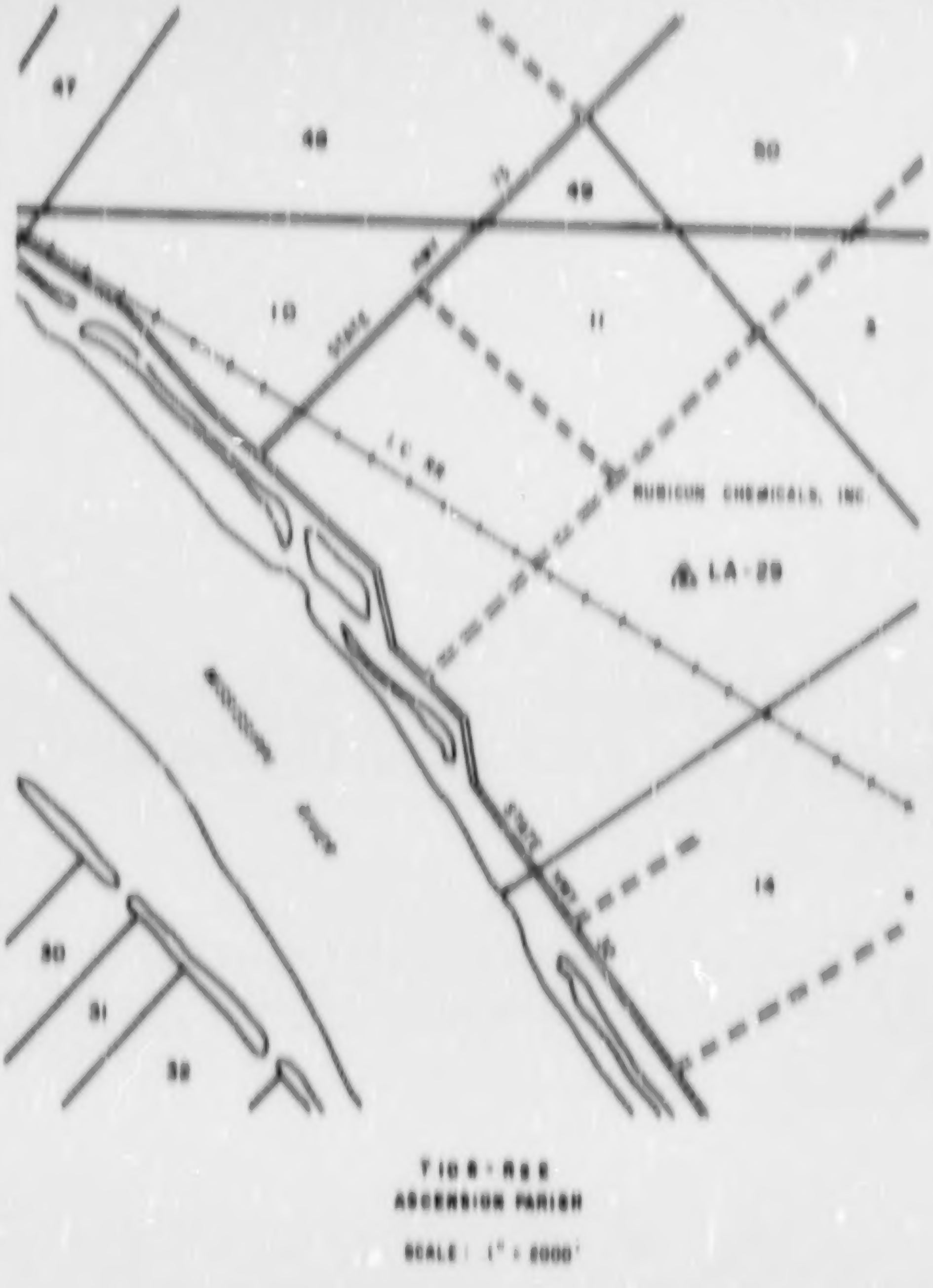


Figure 59. Location map of well LA-29

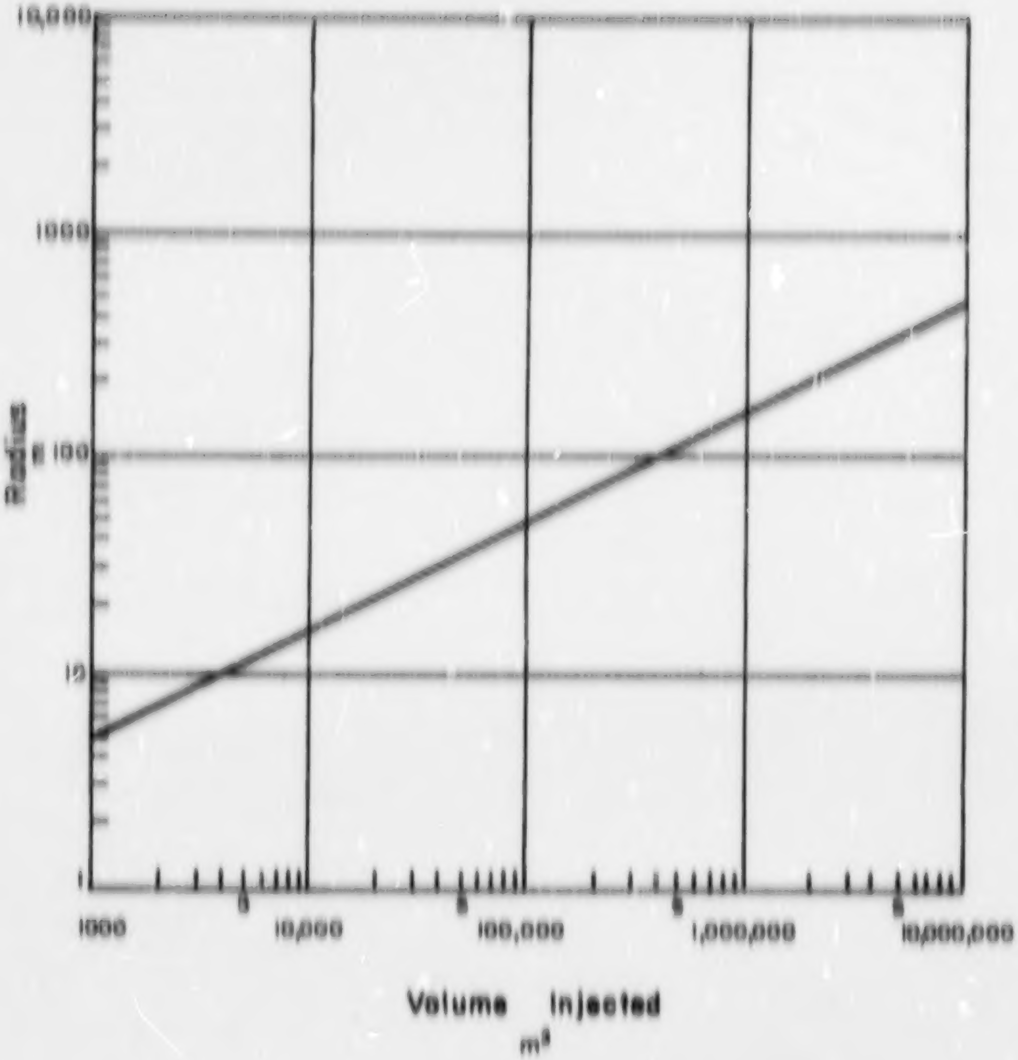


Figure 60. Radius of invasion for well LA-29

[redacted]

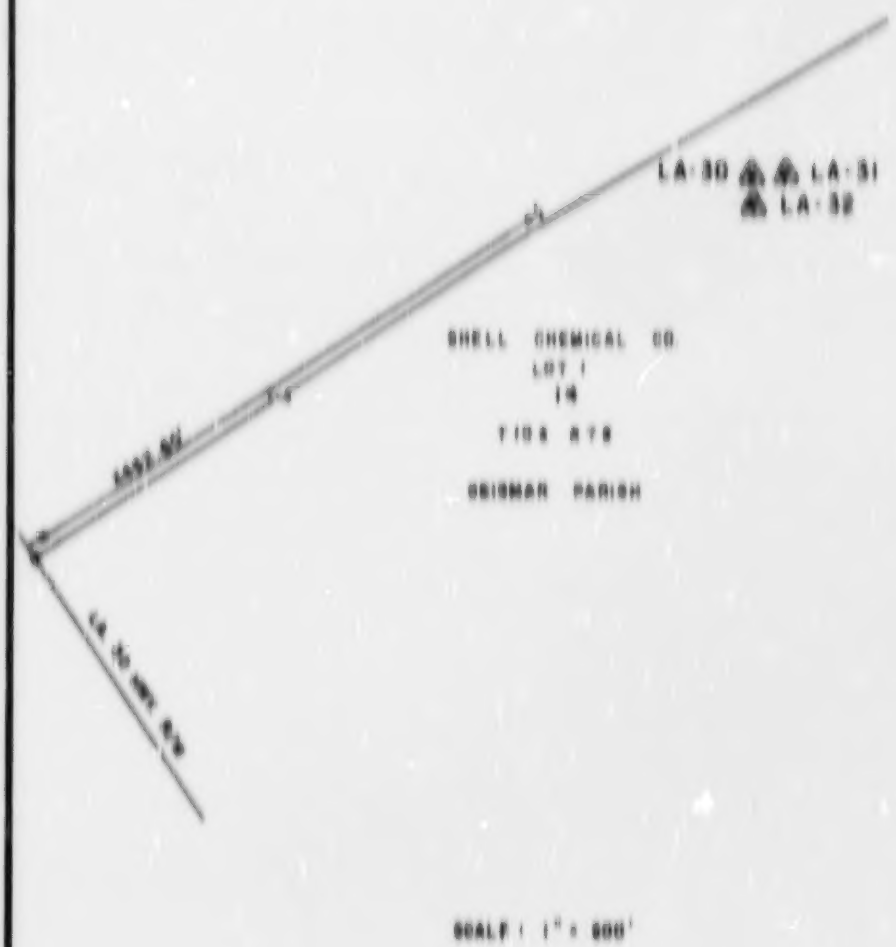


Figure 61. Location map of wells LA-30, 31, 32

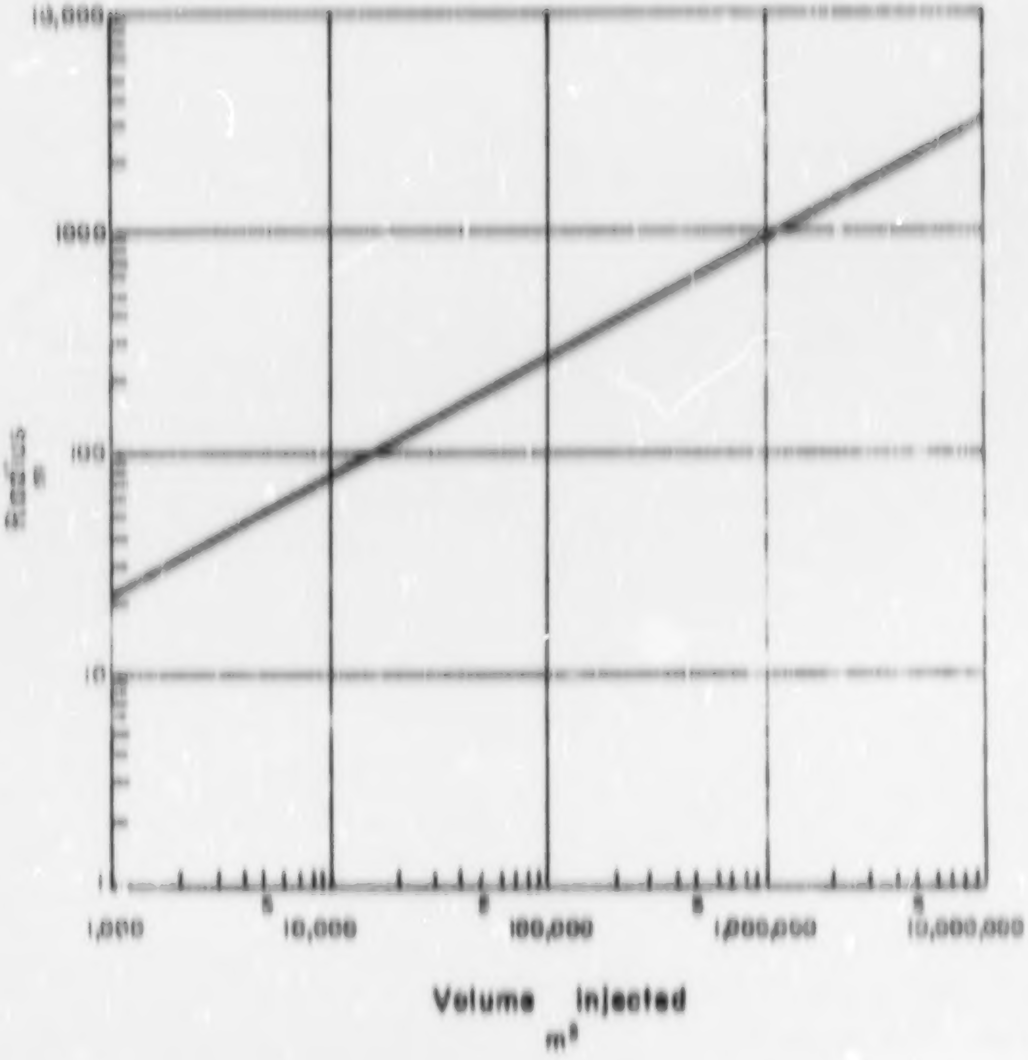


Figure 62. Radius of invasion for well LA-30

OPERATING COMPANY: [illegible]
ADDRESS [illegible]

OPERATIONAL STATUS: [illegible] REGION NO: [illegible]
PERMIT STATUS: [illegible] WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

Type of Waste Injected: [illegible]

Name, Age, and Depth of Injection Zone: [illegible]

[illegible]

III. GEOLOGIC INFORMATION

Geological Description of Rock Units Penetrated by Well

Name	Age	Depth	Thickness	Lithology
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Description of Injection Unit

	Injection Unit	Caprock
[illegible]	[illegible]	[illegible]

Hydrology of Fresh Water Aquifers in Vicinity

Name	Depth	Thickness	Lithology	Fluid Character
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Mineral Resources in Area: [illegible]

Location of Other Wells in the Affected Area: [illegible]

IV. WASTE CHARACTERISTICS

Chemical Description: [illegible]

[illegible]

Reaction with Surface Equipment: [illegible]

Degradability Level and Rate: [illegible]

Biological Level Before and After Injection (Ref 1): [illegible]

Pre-injection Waste Treatment: [illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

[illegible]

Type and Amount of Cement: [illegible]

Well Head Equipment: [illegible]

Subsurface Equipment: [illegible]

Completion Method: [illegible]

Plugging Record: [illegible]

Holding Tanks and Flow Lines: [illegible]

Total Cost of Construction: [illegible]

VI. OPERATING CHARACTERISTICS

Injection Rates: [illegible]

Injection Pressure: [illegible]

Operating History and/or Problems: [illegible]

VII. MONITORING

Monitoring Devices and Data: [illegible]

Sampling Frequency and Water Quality Parameters Measured: [illegible]

Frequency of Measuring Water Levels and Hydrostatic Head: [illegible]

Contingency Plan for Well Failure During Operation: [illegible]

Preinjection Requirements: [illegible]

Monitoring Requirements: [illegible]

Restrictions on Operating Procedures: [illegible]

MISCELLANEOUS

[illegible]

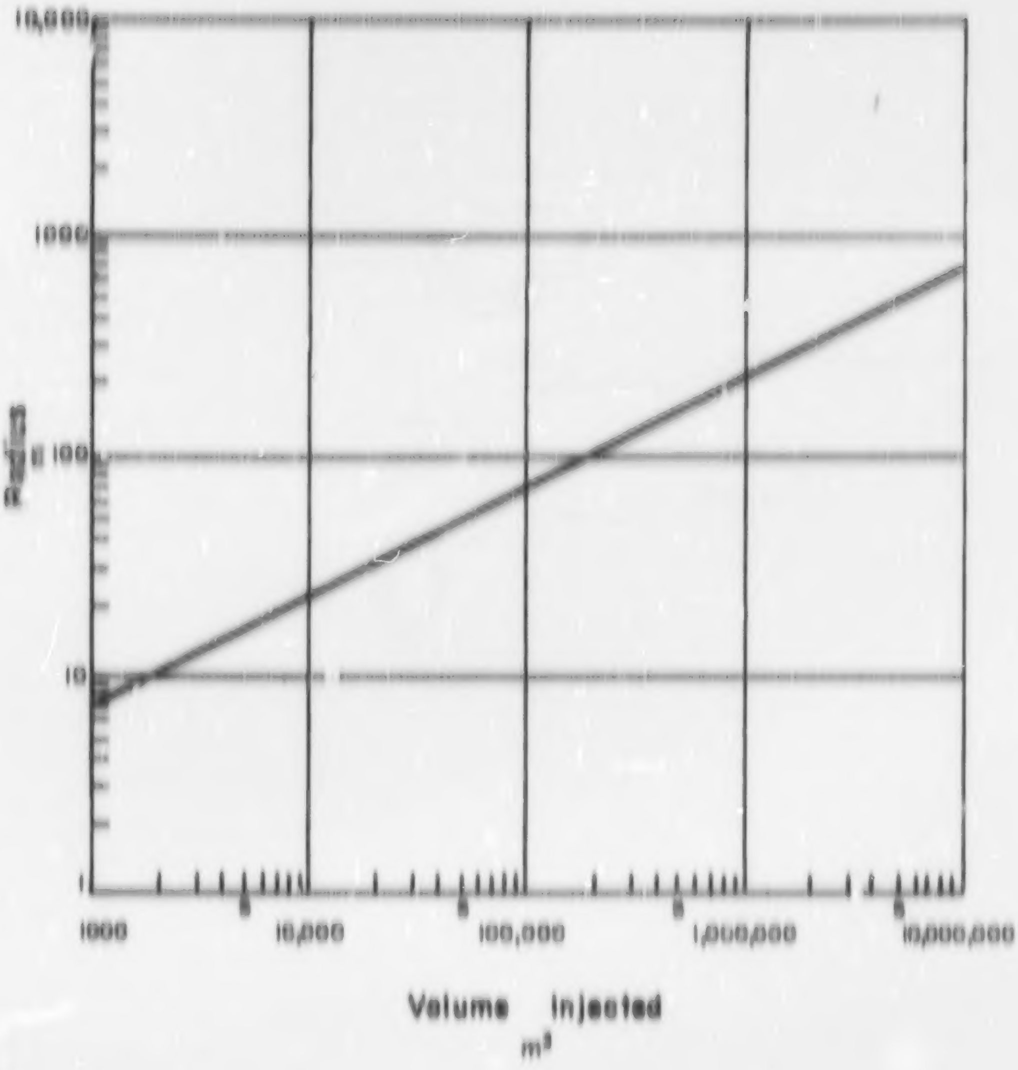


Figure 63. Radius of invasion for well LA-31

OPERATING COMPANY: [illegible]
ADDRESS [illegible], Louisiana [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

Type of Waste Injected: [illegible]

Name, Age, and Depth of Injection Zone: [illegible]

III. GEOLOGIC INFORMATION

Geological Description of Rock Units Penetrated by Well:

Name	Age	Depth	Thickness	Lithology
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Description of Injection Unit:

	Injection Unit	Aquifer
[illegible]	[illegible]	[illegible]

Hydrogeology of Fresh Water Aquifers in Vicinity:

Name	Depth	Thickness	Lithology	Fluid Character

Mineral Resources in Area:

Location of other wells in the Affected Area: [illegible]

IV. WASTE CHARACTERISTICS

Chemical Description: [illegible]

[illegible]

Reaction with Surface Equipment: [illegible]

Biological Level Before and After Injection (Est.):

Pre-Injection Waste Treatment: [illegible]

OPERATIONAL STATUS: [illegible] REGION NO.: [illegible]
PERMIT STATUS: [illegible] WELL CODE: [illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

[illegible]

Type and Amount of Cement: [illegible]

Subsurface Equipment: [illegible]

Completion Method: [illegible]

Plugging Record:

Holding Tanks and Flow Lines: [illegible]

Filters: [illegible]

Pumps: [illegible]

Total Cost of Construction: [illegible]

Operating Cost: [illegible]

VI. OPERATION CHARACTERISTICS

Injection Rates: [illegible]

Injection Pressure:

Operating History and/or Problems:

VII. MONITORING

Monitoring Devices and Data:

Sampling Frequency and Water Quality Parameters Measured:

Frequency of Measuring Water Levels and Hydrostatic Heads:

Contingency Plan for Well Failure During Operation: [illegible]

Construction Requirements: [illegible]

Monitoring Requirements:

Restrictions on Operation Procedures:

MISCELLANEOUS

[illegible]

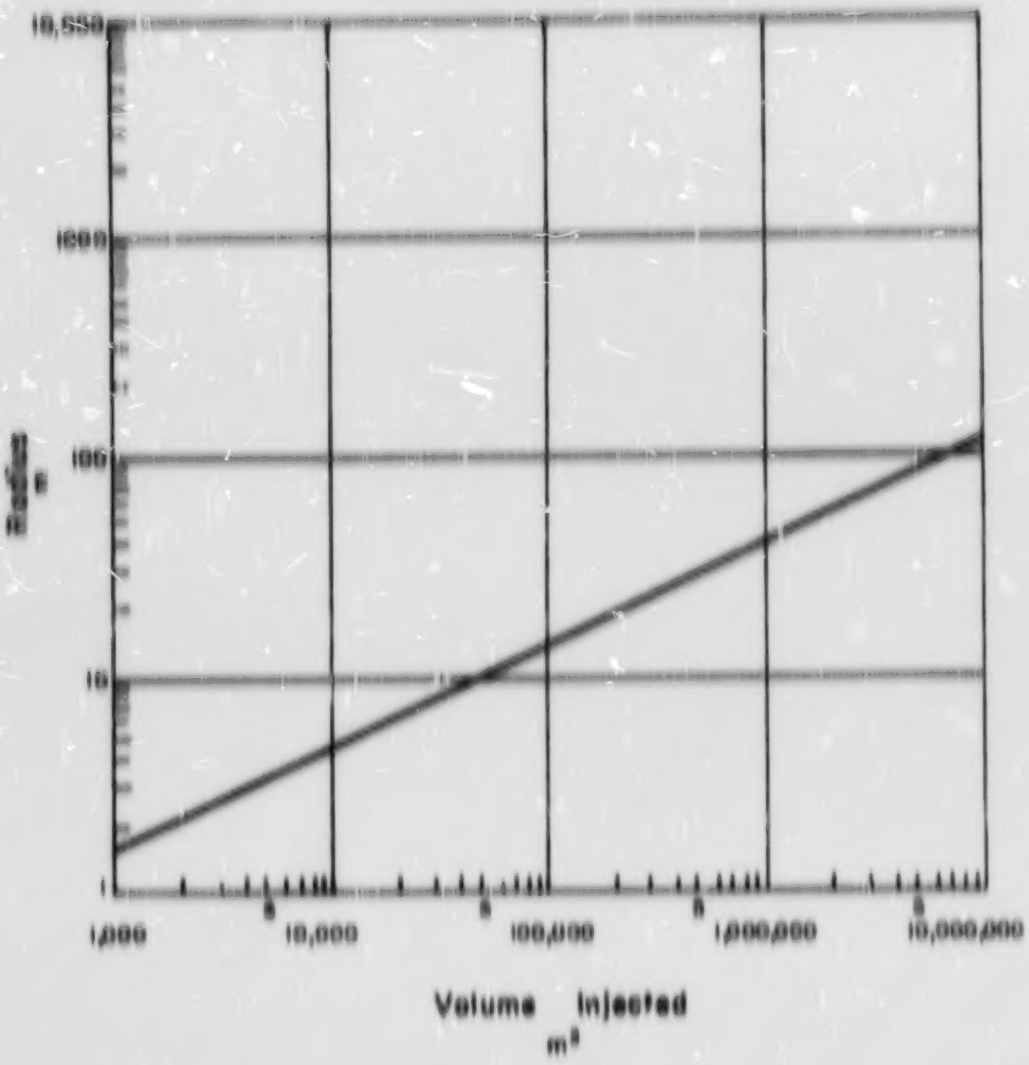


Figure 64. Radius of invasion for well LA-32

OPERATING COMPANY: [illegible]
ADDRESS: [illegible]

OPERATIONAL STATUS: [illegible] REGION NO.: [illegible]
PERMIT STATUS: [illegible] WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

Type of Waste Injected: [illegible]

Name, Age, and Depth of Injection Zone: [illegible]

III. GEOLOGIC INFORMATION

Geological Description of Rock Units Penetrated by Well:

Name	Age	Depth	Thickness	Lithology
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Description of Injection Unit:

	Injection Unit	Caprock
[illegible]	[illegible]	[illegible]

Hydrology of Fresh Water Aquifers in Vicinity:

Name	Depth	Thickness	Lithology	Fluid Character
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Mineral Resources in Area: [illegible]

Location of other wells in the Affected Area: [illegible]

IV. WASTE CHARACTERISTICS

Chemical Description: [illegible]

[illegible]

Reaction with Surface Equipment: [illegible]

Degradability Level and Rate: [illegible]

Biological Level Before and After Injection: [illegible]

Pre-Injection Waste Treatment: [illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

[illegible]

Type and Amount of Cement: [illegible]

Well Head Equipment: [illegible]

Subsurface Equipment: [illegible]

Completion Method: [illegible]

Plugging Record: [illegible]

[illegible]

VI. OPERATING CHARACTERISTICS

Injection Rates: [illegible]

Injection Pressure: [illegible]

[illegible]

VII. MONITORING

Monitoring Devices and Data: [illegible]

Sampling Frequency and Water Quality Parameters Measured: [illegible]

Frequency of Measuring Water Levels and Hydrostatic Heads: [illegible]

Contingency Plan for Well Failure During Operation: [illegible]

Restoration Requirements: [illegible]

Monitoring Requirements: [illegible]

Restrictions on Operation Procedures: [illegible]

MISCELLANEOUS:

[illegible]

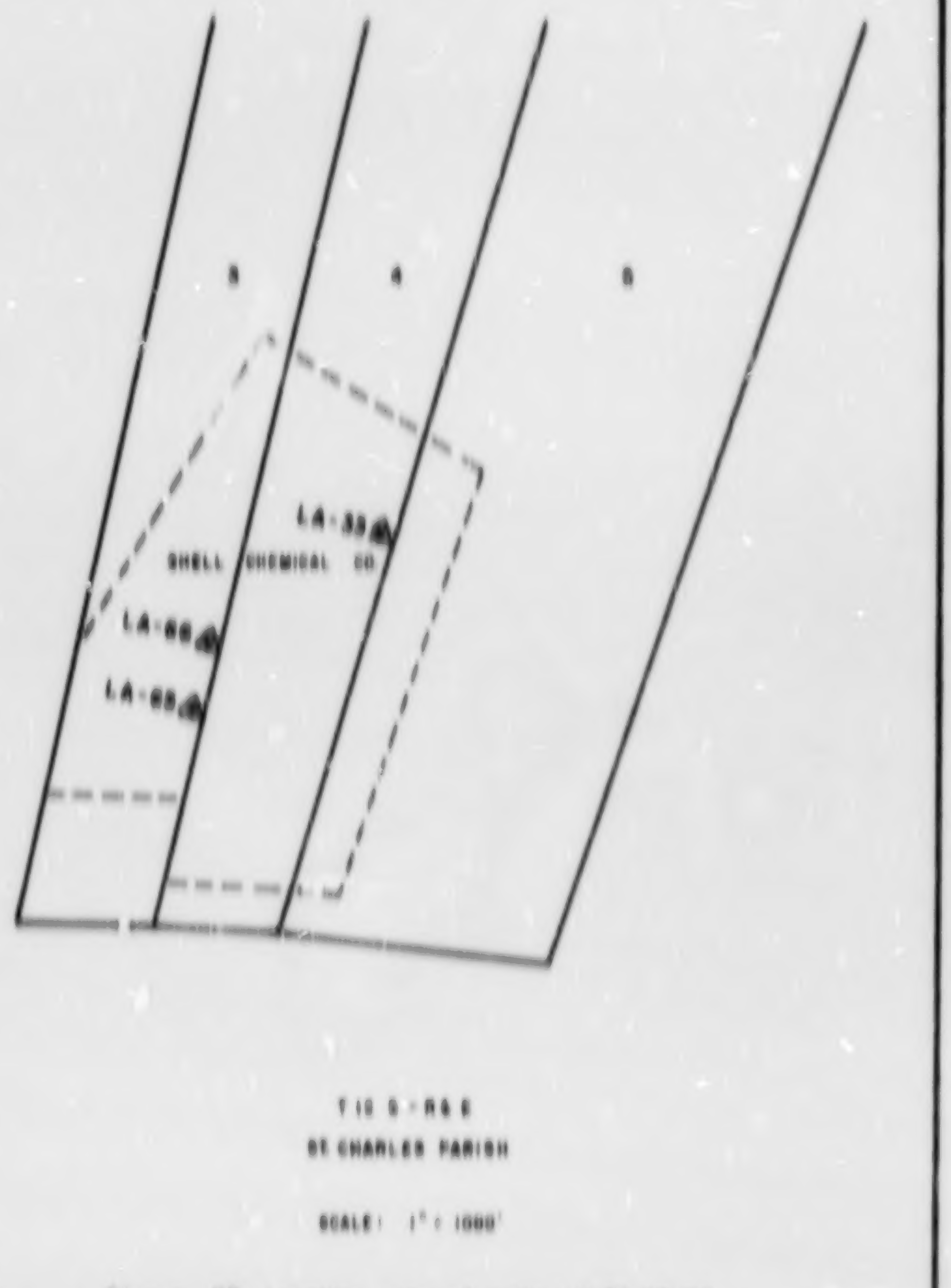


Figure 65. Location map of wells LA-33, 65, 66

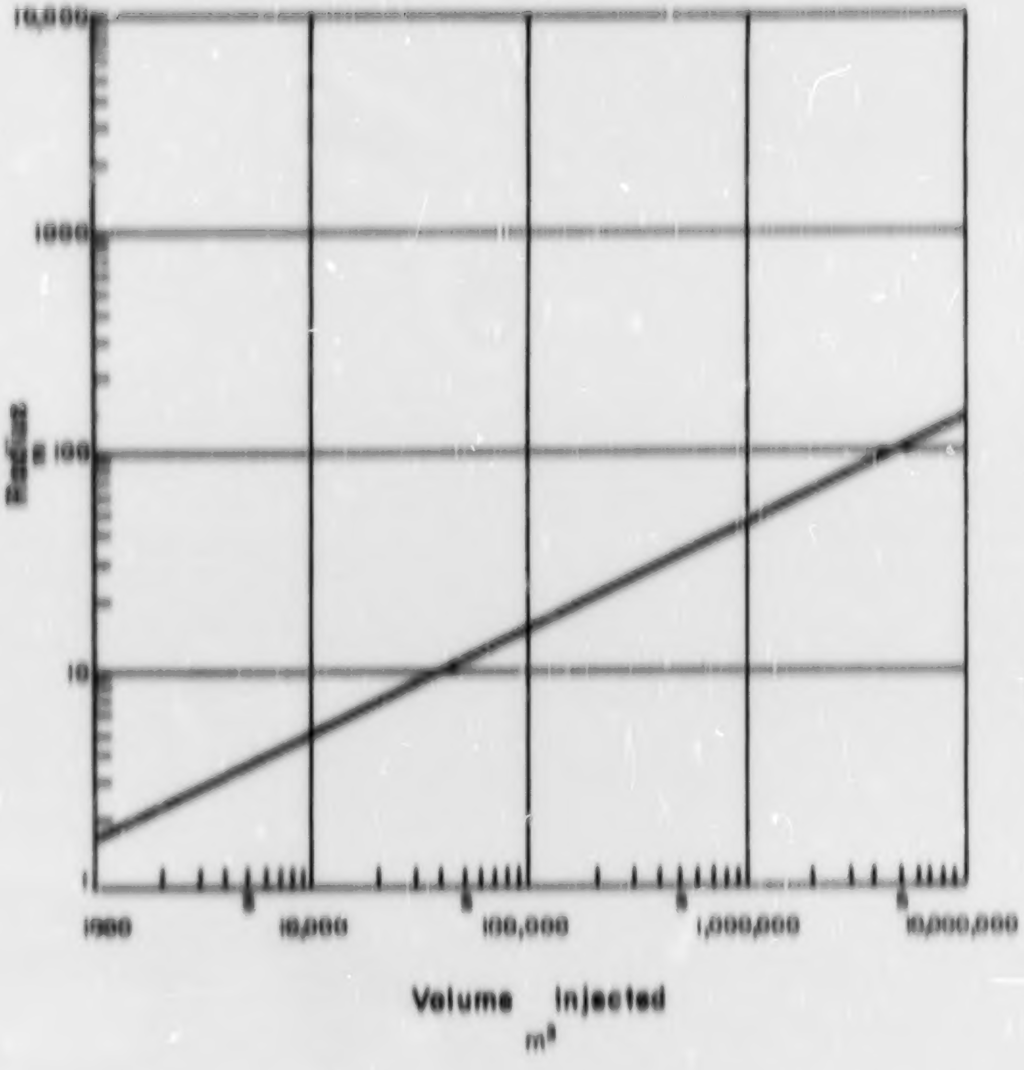


Figure 66. Radius of invasion for well LA-33

OPERATING COMPANY: [illegible]
ADDRESS: [illegible]

OPERATIONAL STATUS: [illegible] REGION NO.: [illegible]
PERMIT STATUS: [illegible] WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

[illegible]

III. GEOLOGIC INFORMATION

Geological Description of Rock Units Penetrated by Well:

[illegible]

Description of Injection Unit:

[illegible]

Mineral Resources in Area: [illegible]

Location of water wells in the Affected Area: [illegible]

IV. WASTE CHARACTERISTICS

[illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

[illegible]

VI. OPERATING CHARACTERISTICS

[illegible]

VII. MONITORING

Monitoring Devices and Data: [illegible]

Sampling Frequency and Water Quality Parameters Measured: [illegible]

Frequency of Measuring Water Levels and Hydrostatic Heads: [illegible]

Contingency Plan for Well Failure During Operation: [illegible]

Monitoring Requirements: [illegible]

Restrictions on Operating Procedures: [illegible]

MISCELLANEOUS

[illegible]

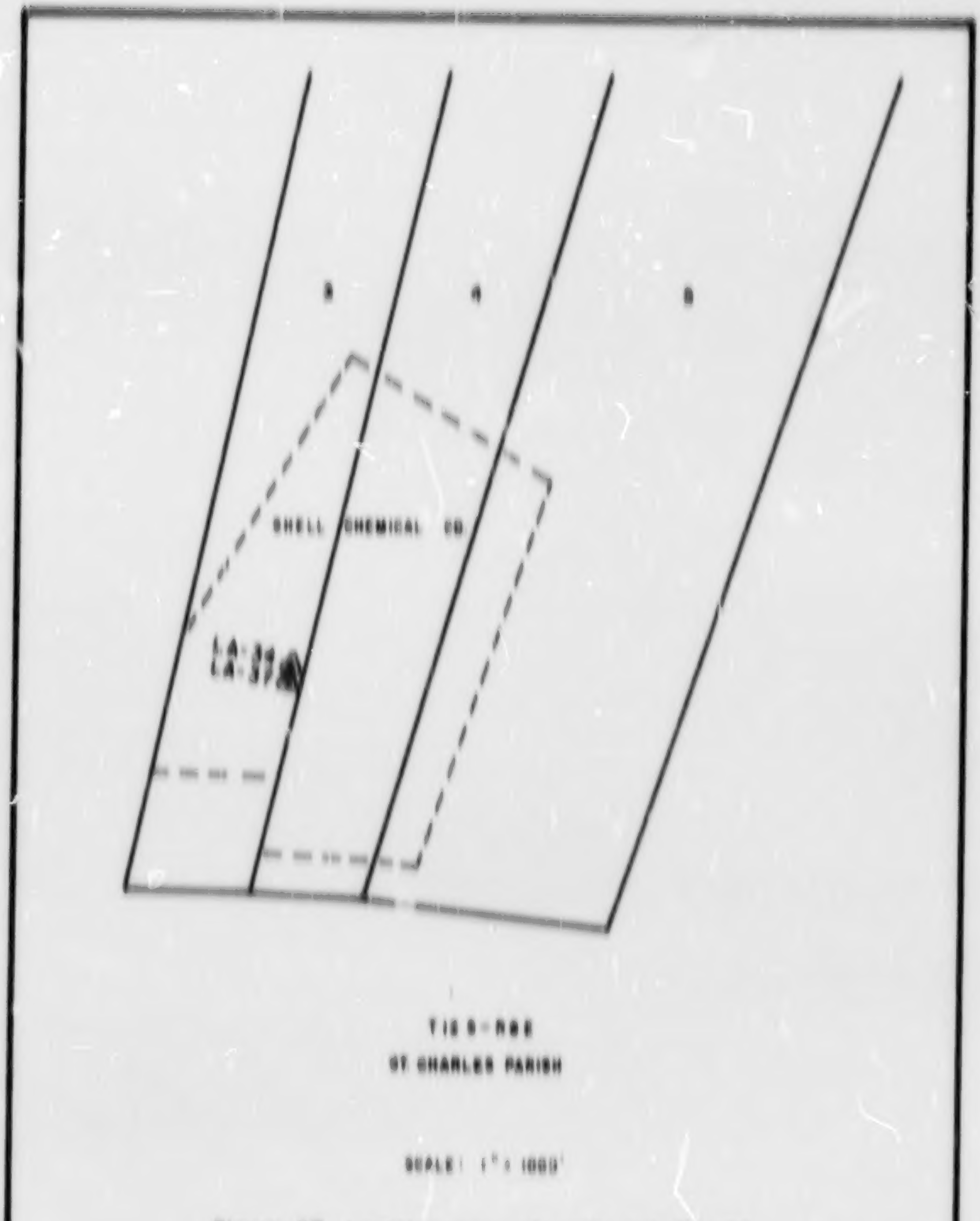


Figure 67. Location map of wells LA-34, 37

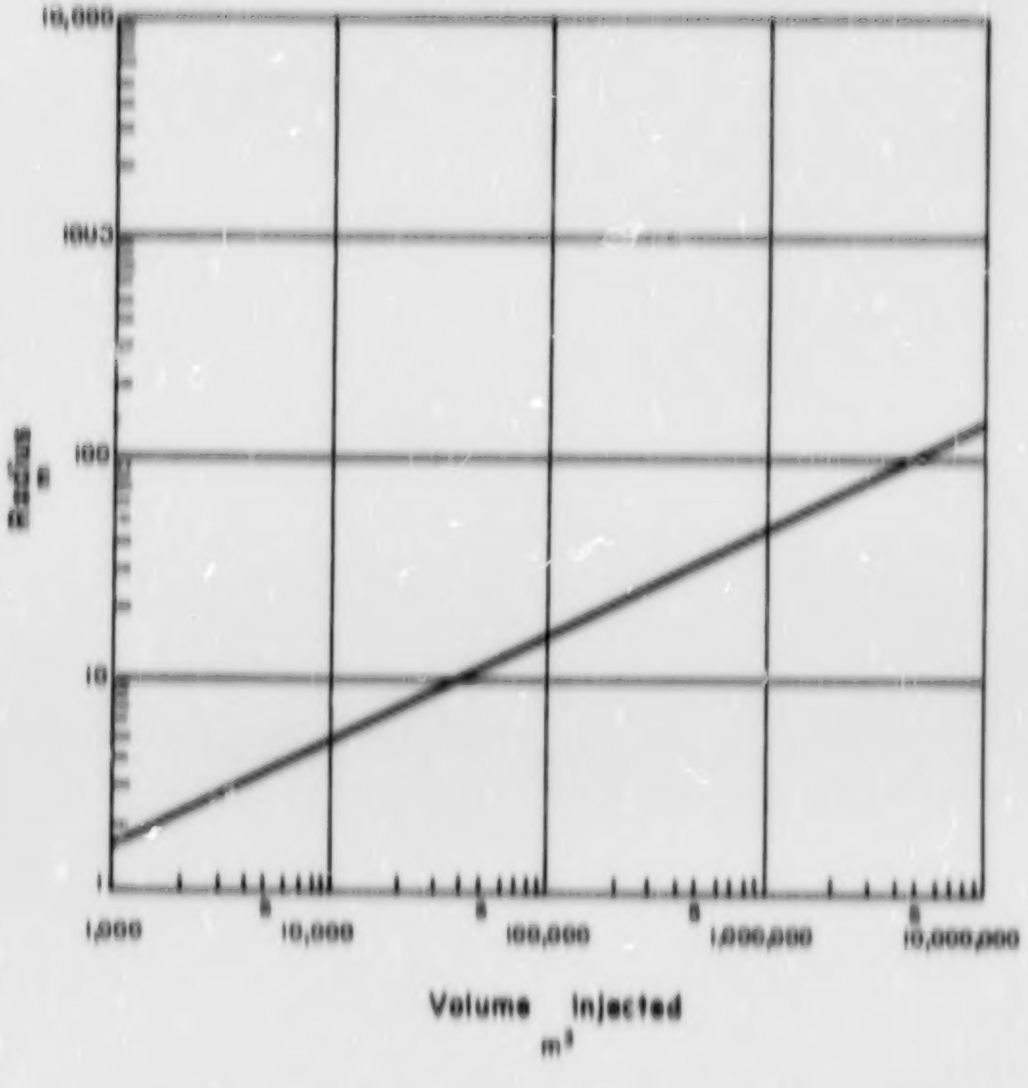


Figure 68. Radius of invasion for well LA-34

[redacted]

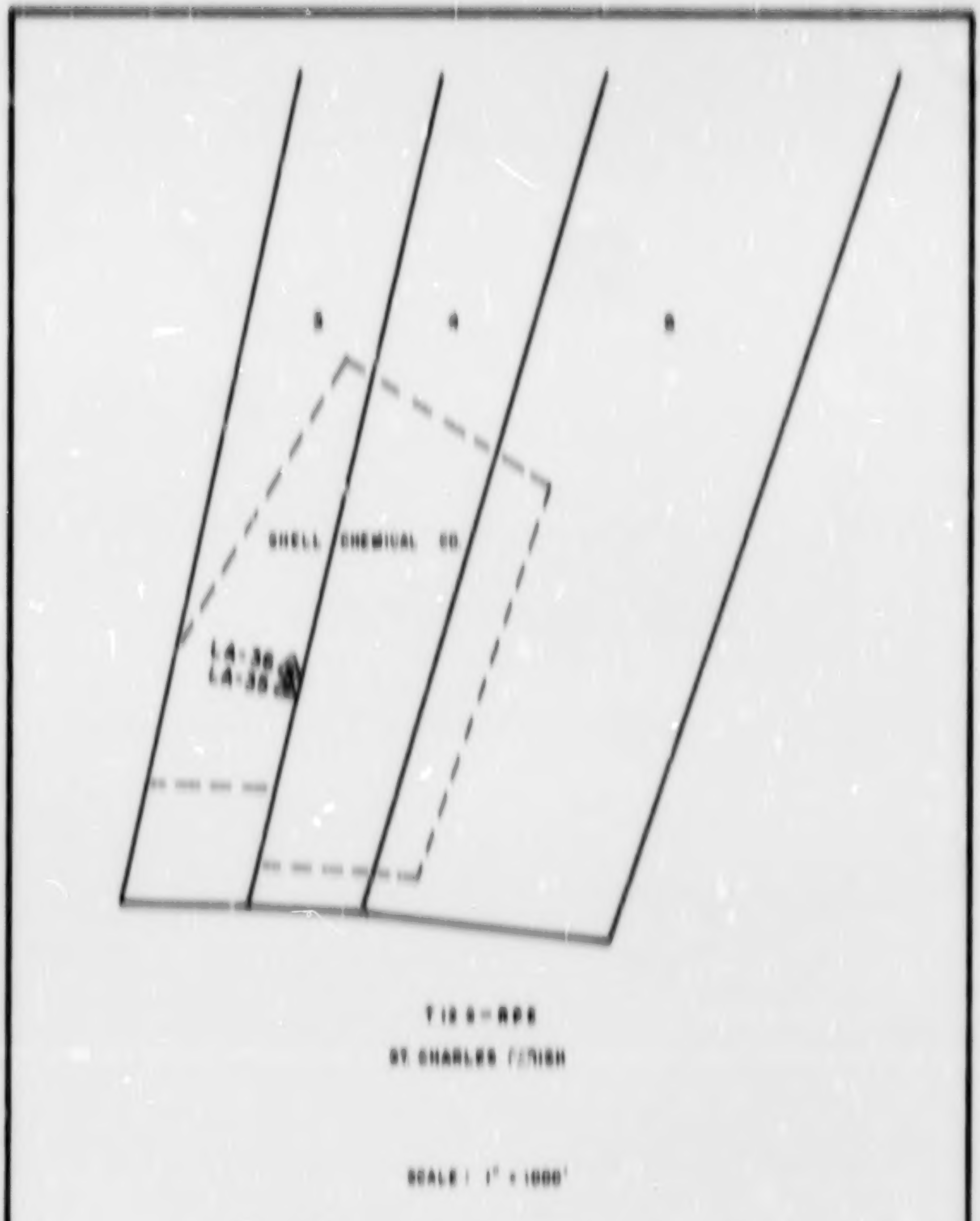


Figure 69. Location map of wells LA-35, 36

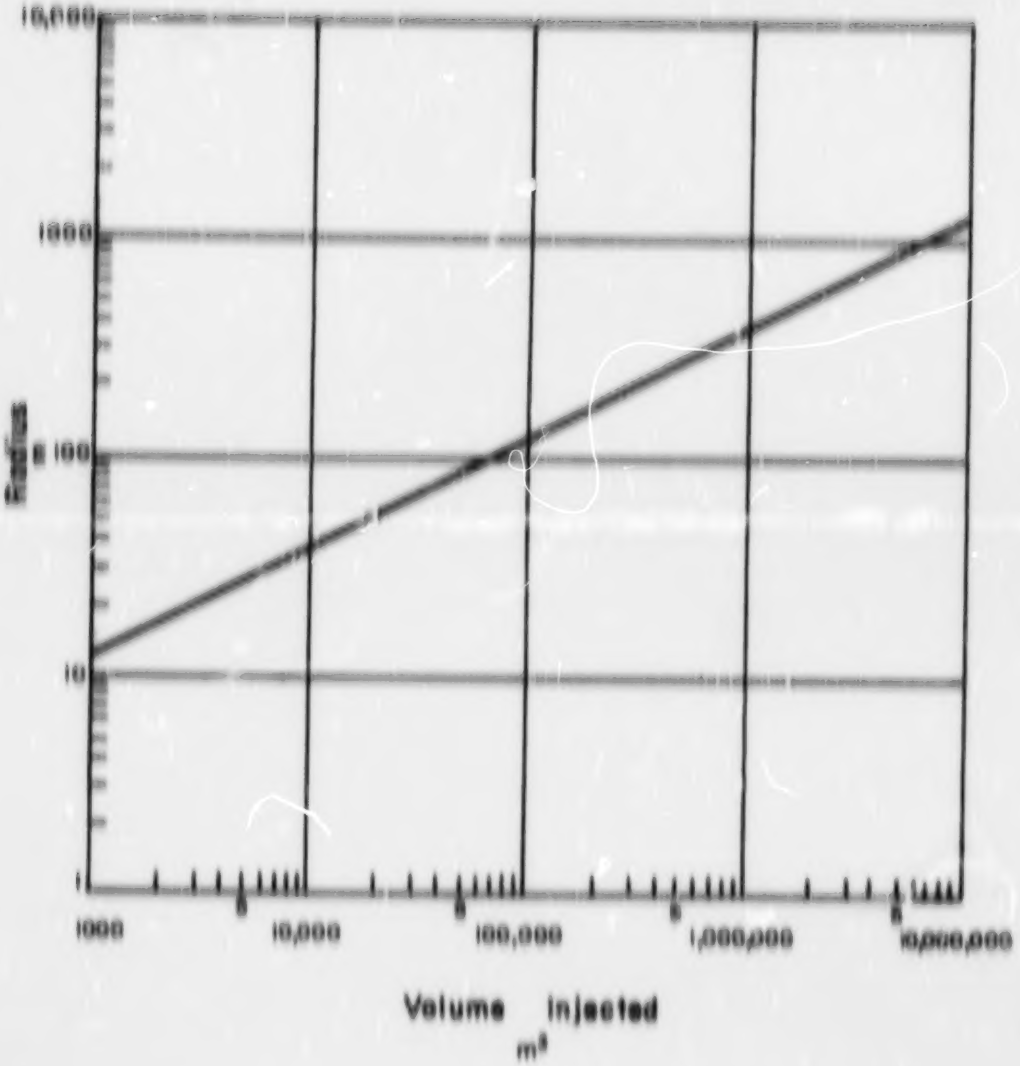
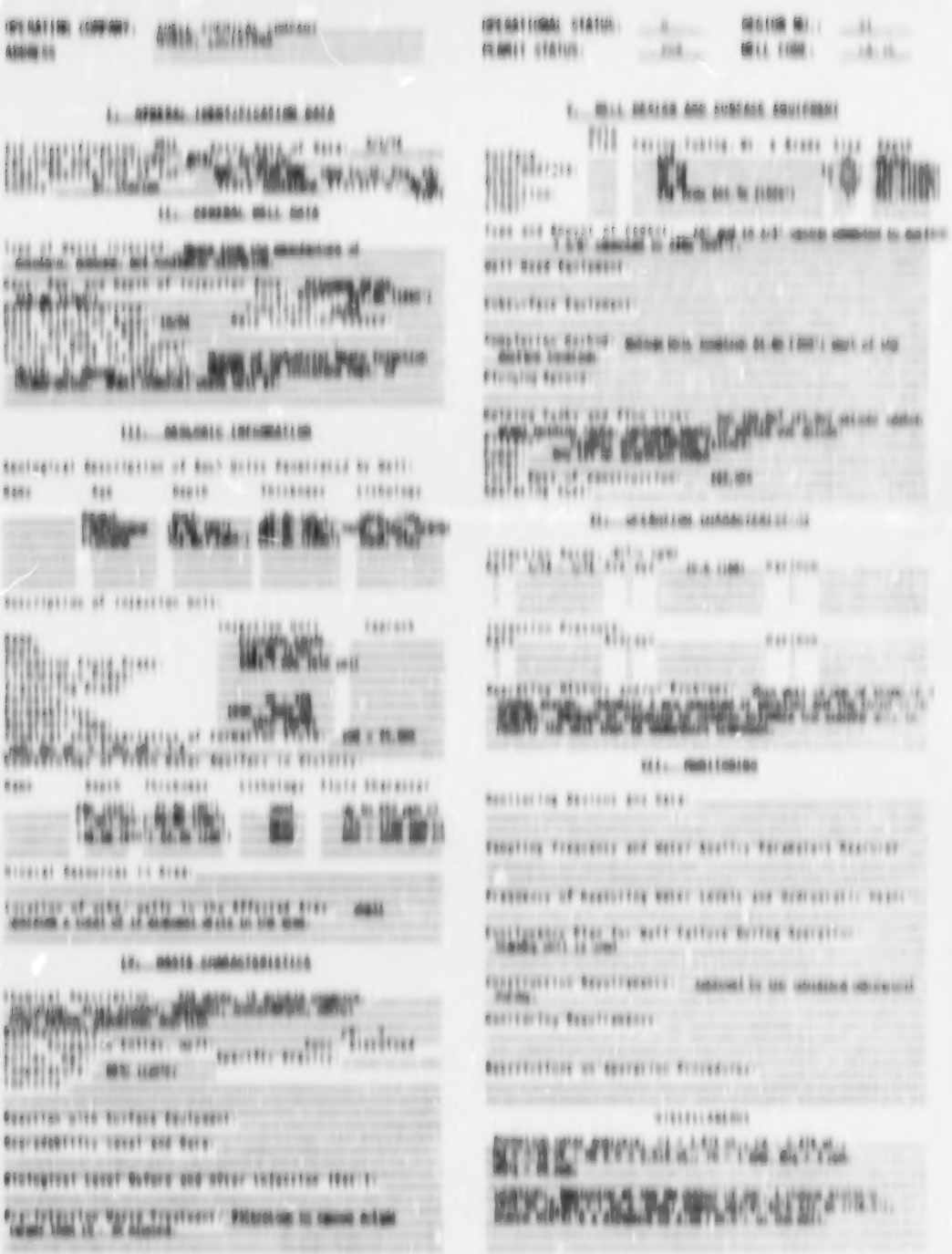


Figure 70. Radius of invasion for well LA-55



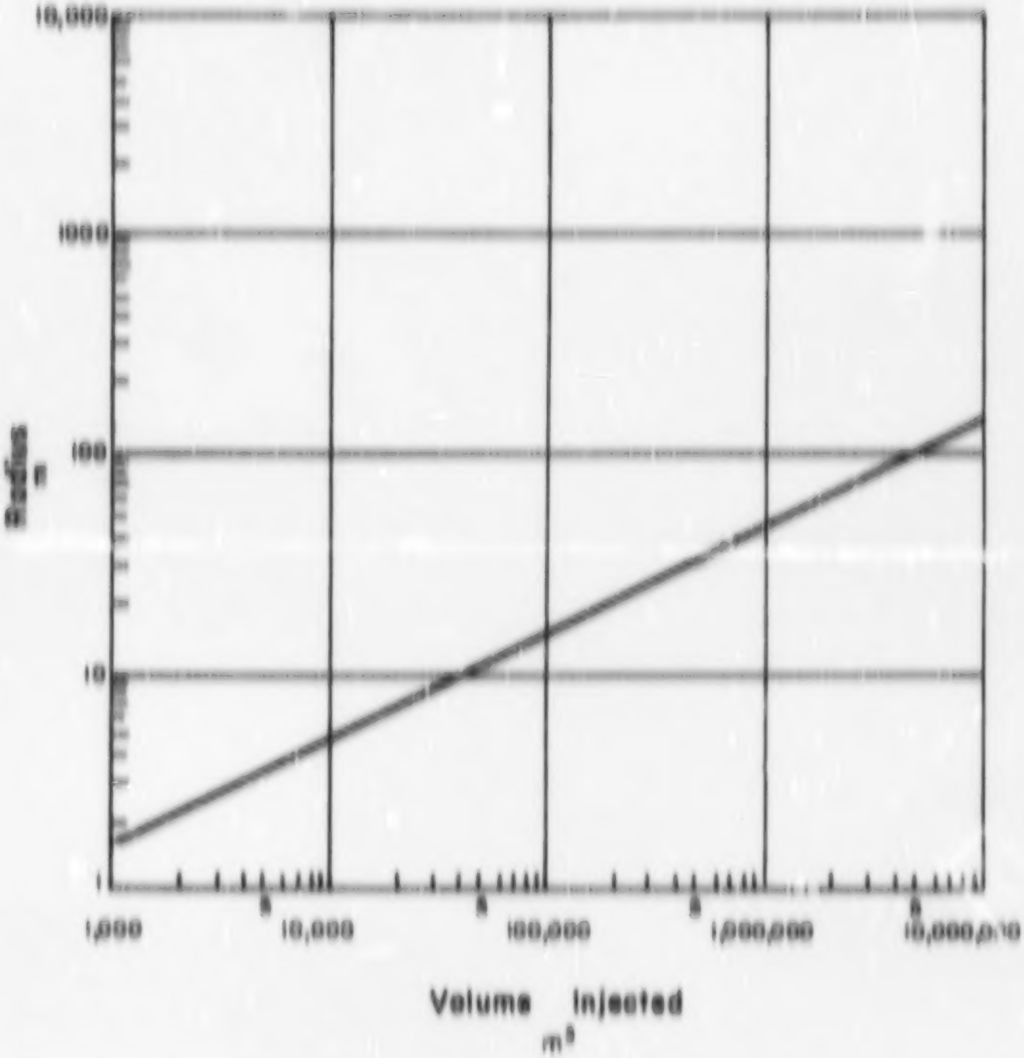


Figure 71. Radius of invasion for well LA-36

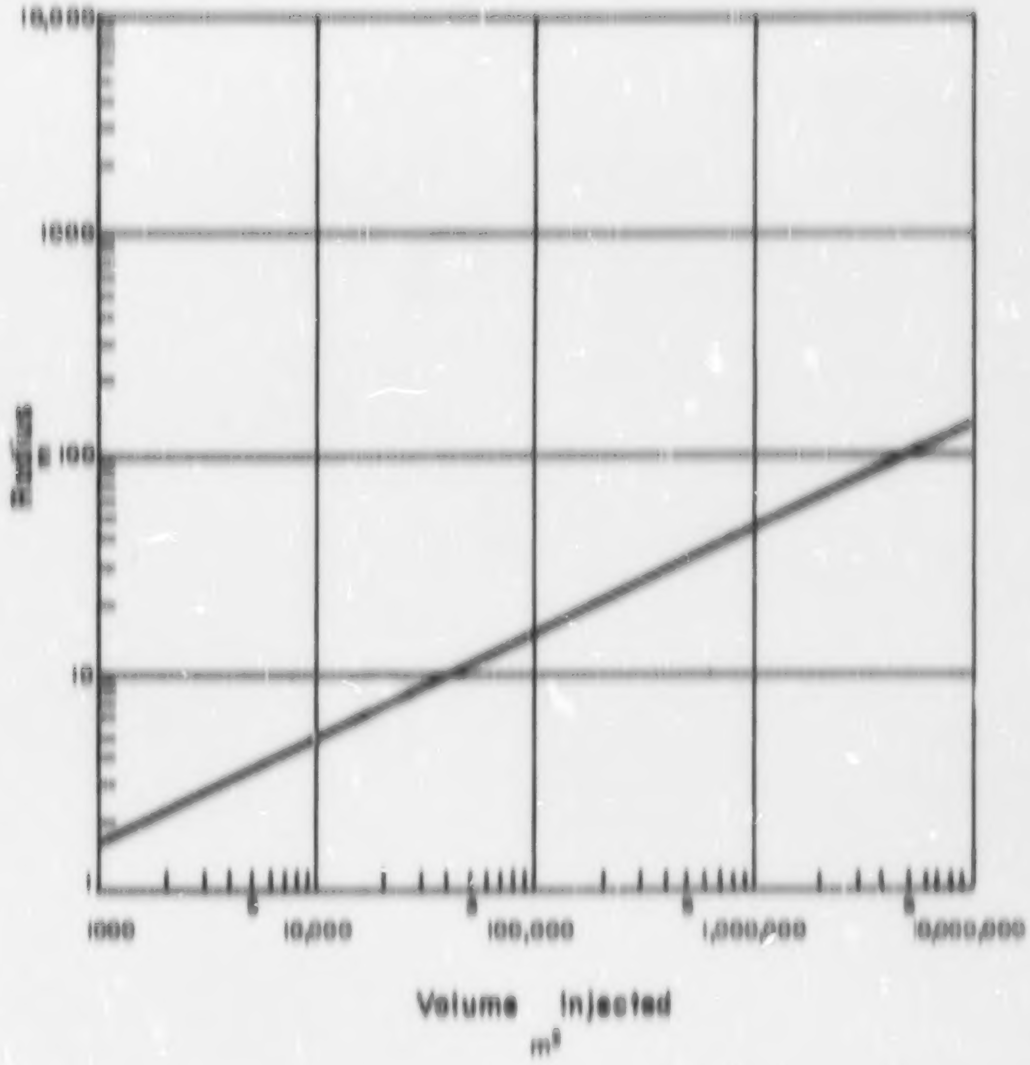


Figure 72. Radius of invasion for well LA-57

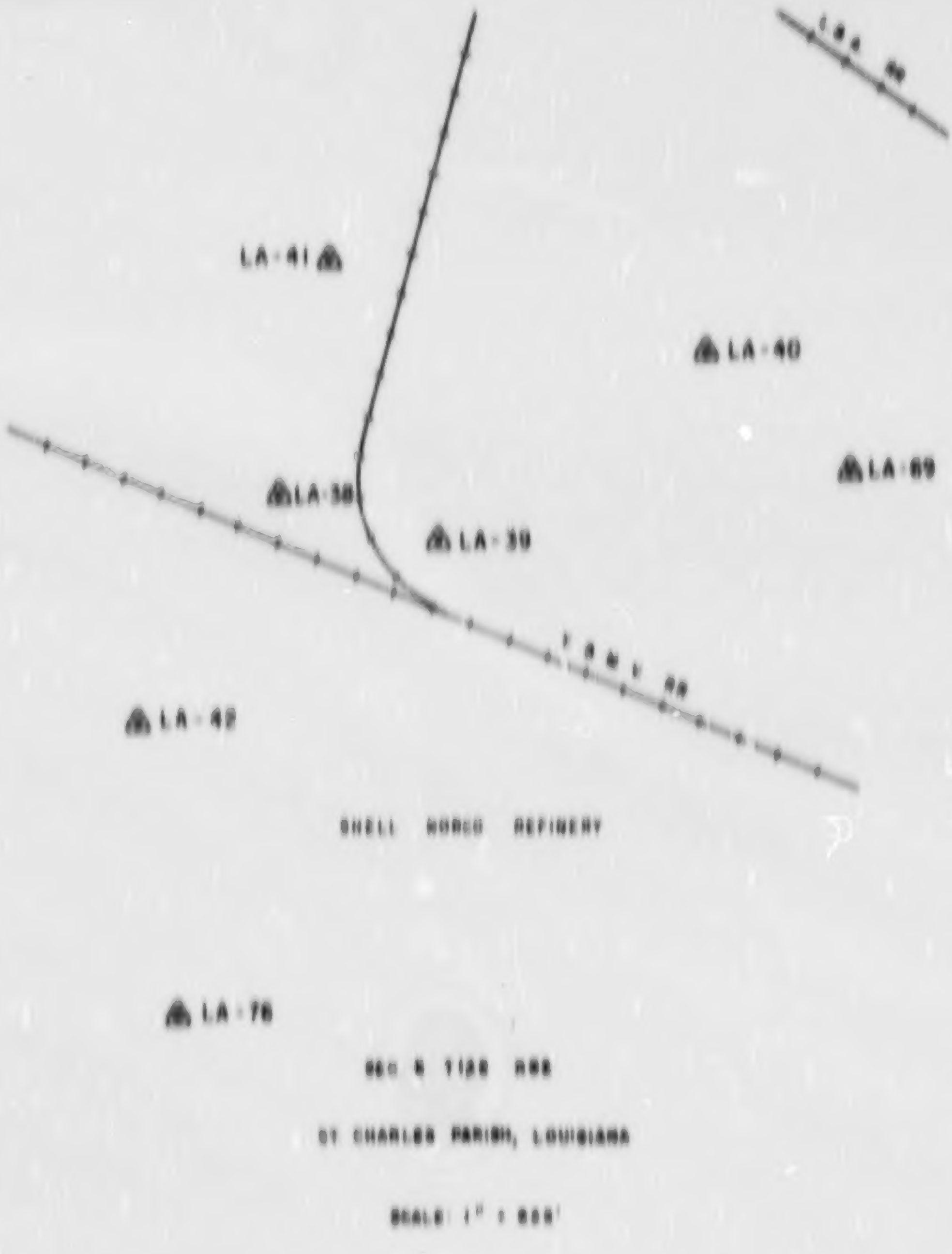


Figure 73. Location map of wells LA-38, 39, 40, 41, 42, 69, 76

[illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

[illegible]

III. GEOLOGIC INFORMATION

[illegible]

IV. WATER CHARACTERISTICS

[illegible]

V. WELL DESIGN AND SURFACE FEATURES

[illegible]

VI. OPERATION CHARACTERISTICS

[illegible]

VII. PUBLICATIONS

[illegible]

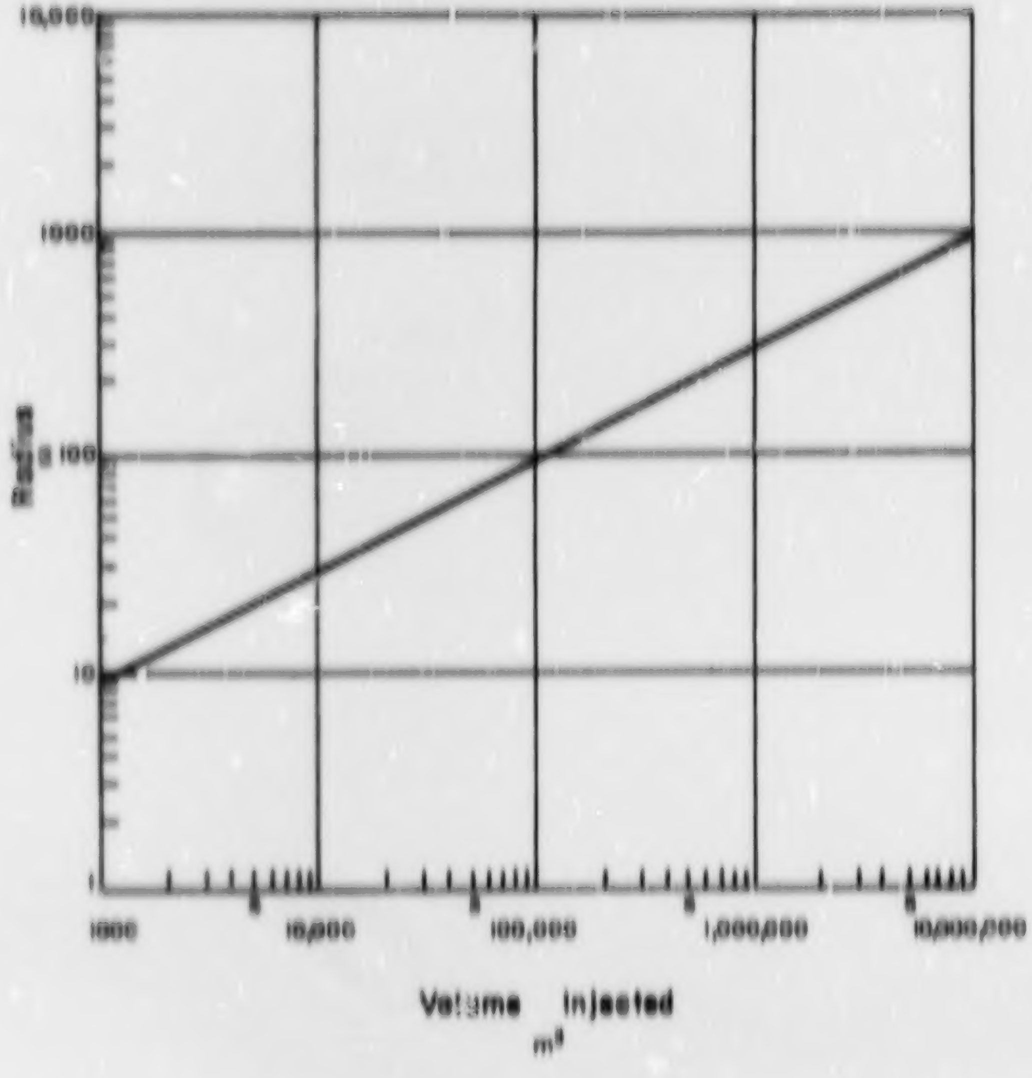


Figure 74. Radius of invasion for well LA-39

OPERATING COMPANY:

ADDRESS

OPERATIONAL STATUS:

REGION NO.:

PERMIT STATUS:

WELL CODE:

I. GENERAL IDENTIFICATION DATA

II. GENERAL WELL DATA

III. GEOLOGIC INFORMATION

IV. WASTE CHARACTERISTICS

V. WELL DESIGN AND SURFACE EQUIPMENT

VI. OPERATION CHARACTERISTICS

VII. MONITORING

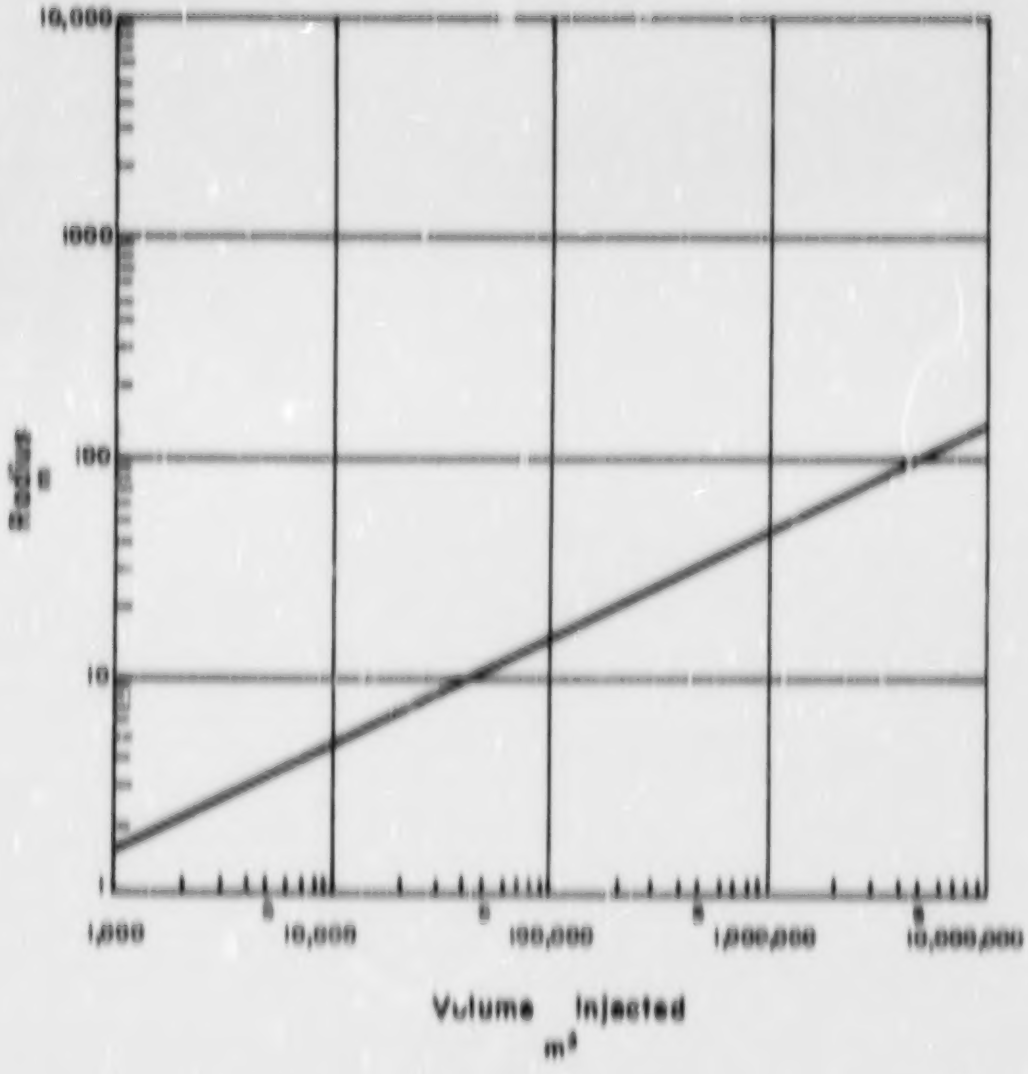


Figure 75. Radius of invasion for well LA-40

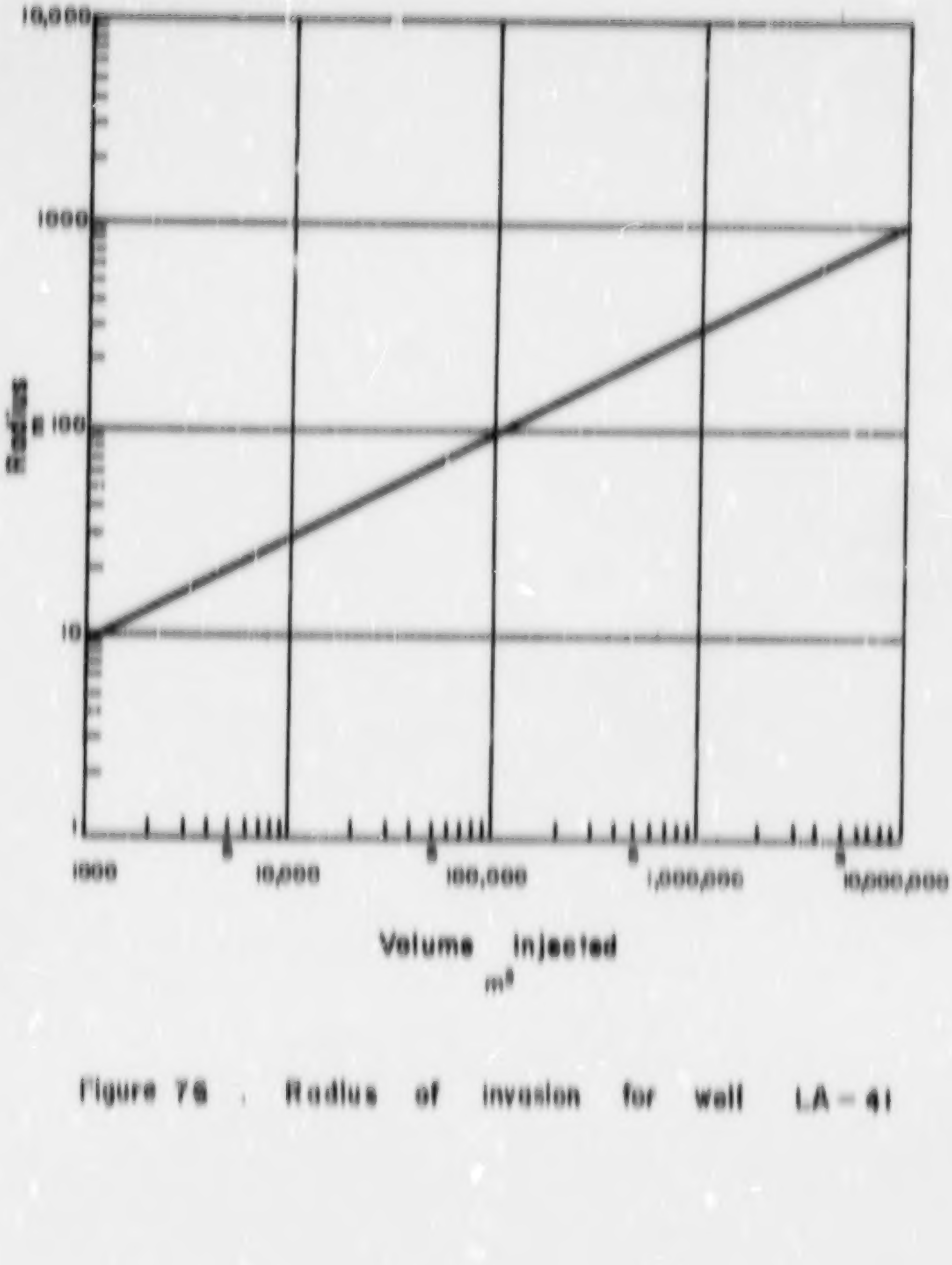


Figure 76 . Radius of invasion for well LA-41

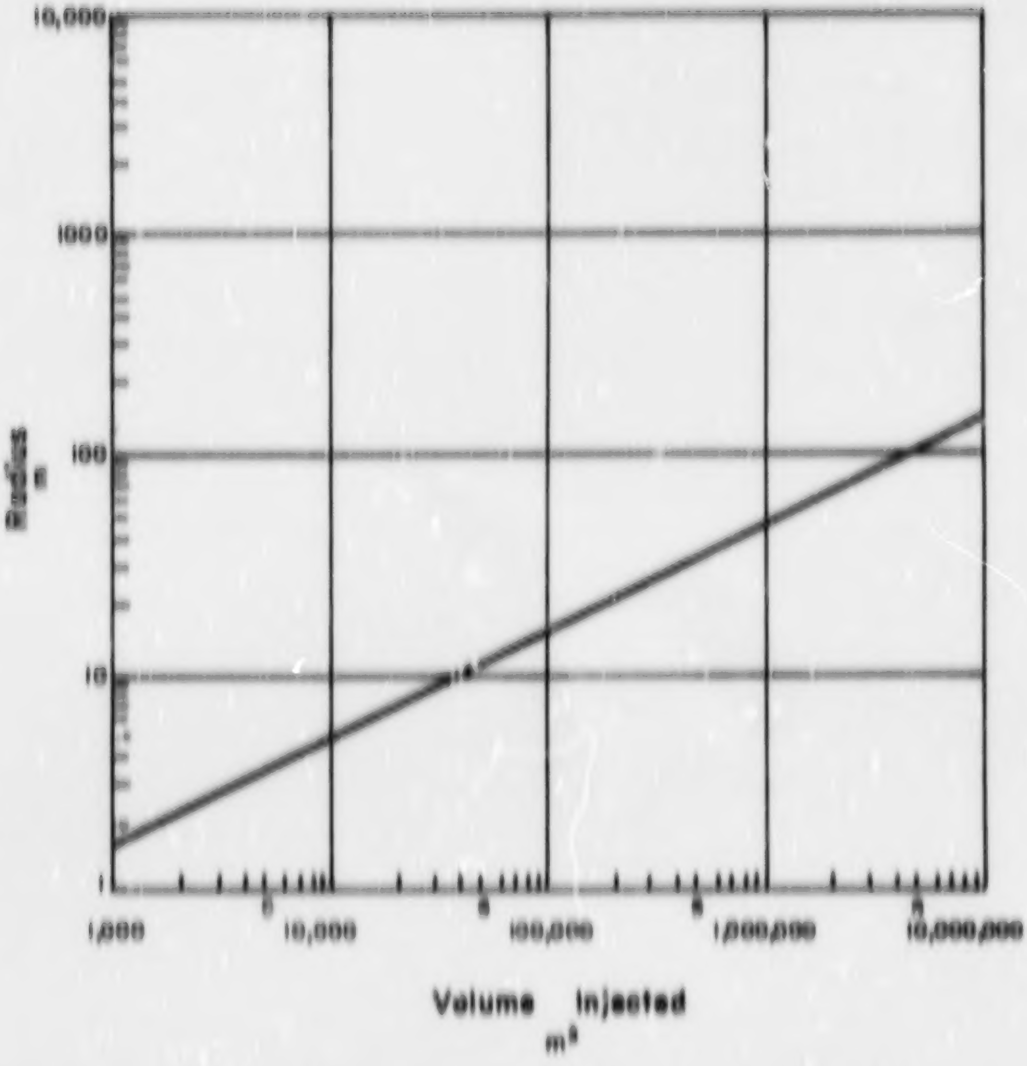


Figure 77. Radius of invasion for well LA-42

OPERATING COMPANY: [illegible]
ADDRESS [illegible]

OPERATIONAL STATUS: [illegible] REGION NO.: [illegible]
PERMIT STATUS: [illegible] WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

Type of Waste Injected: [illegible]

Name, Age, and Depth of Injection Zone: [illegible]

[illegible]

III. GEOLOGIC INFORMATION

Geological Description of Rock Units Penetrated by Well:

Name	Age	Depth	Thickness	Lithology
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Description of Injection Unit:

[illegible]

Hydrogeology of Fresh Water Aquifers in Vicinity:

Name	Depth	Thickness	Lithology	Fluid Character
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Mineral Resources in Area: [illegible]

Location of other wells in the Affected Area: [illegible]

IV. WASTE CHARACTERISTICS

Chemical Description: [illegible]

[illegible]

Reaction with Surface Equipment: [illegible]

Degradability Level and Rate: [illegible]

Biological Level Before and After Injection: [illegible]

Pre-Injection Waste Treatment: [illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

[illegible]

Type and Amount of Cement: [illegible]

Well Head Equipment: [illegible]

Subsurface Equipment: [illegible]

Completion Method: [illegible]

Plugging Record: [illegible]

Holding Tanks and Flow Lines: [illegible]

Filters: [illegible]

Total Cost of Construction: [illegible]
Operating Cost: [illegible]

VI. OPERATING CHARACTERISTICS

Injection Rates: [illegible]

Injection Pressure: [illegible]

Operating History and/or Problems: [illegible]

VII. MONITORING

Monitoring Devices and Data: [illegible]

Sampling Frequency and Water Quality Parameters Measured: [illegible]

Frequency of Measuring Water Levels and Hydrostatic Heads: [illegible]

Contingency Plan for Well Failure During Operation: [illegible]

Abandonment Requirements: [illegible]

Monitoring Requirements: [illegible]

Restrictions on Operating Procedures: [illegible]

[illegible]

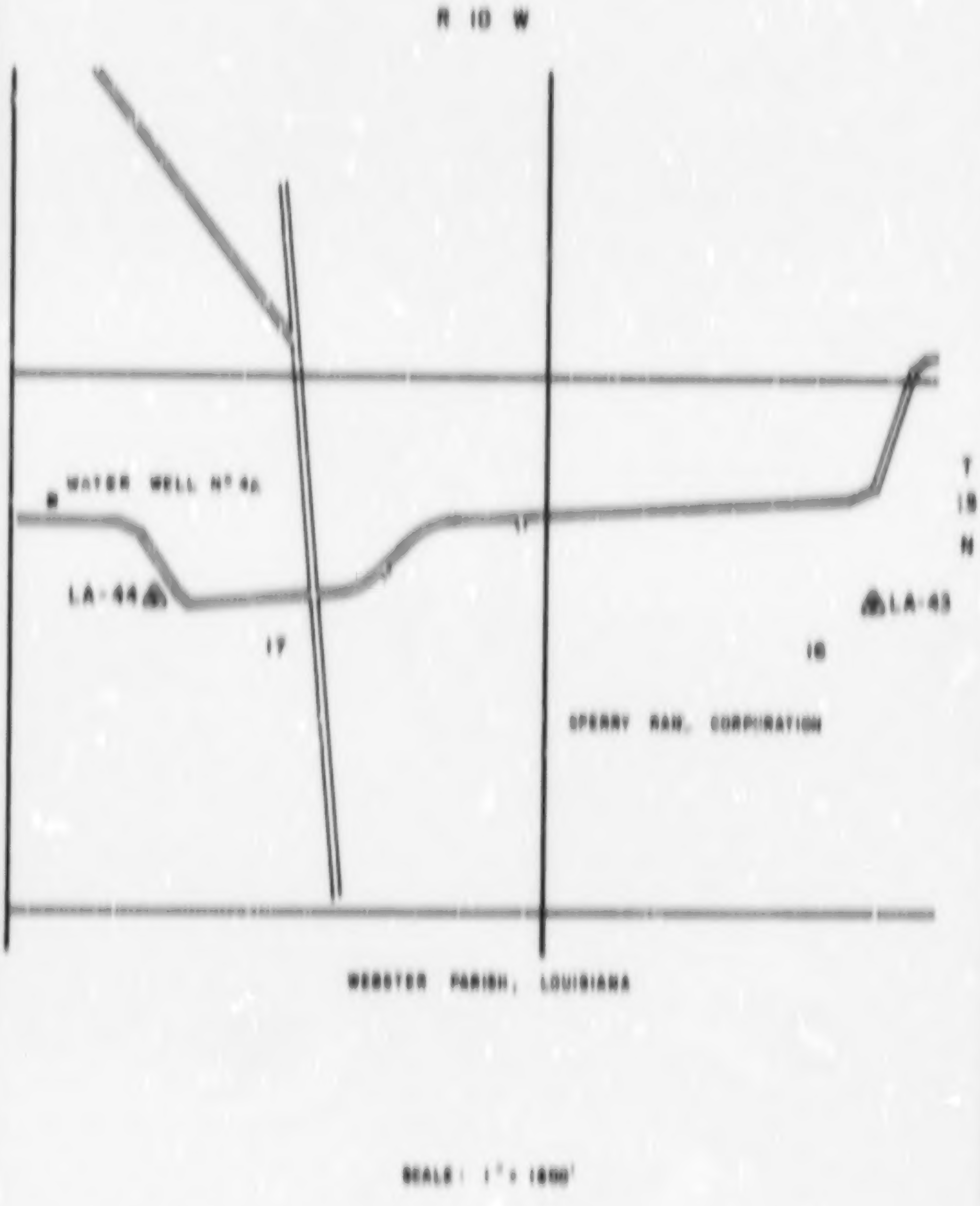


Figure 7B. Location map of wells LA-43, 44

OPERATING COMPANY: [illegible]
ADDRESS [illegible]

OPERATIONAL STATUS: [illegible] REGION NO.: [illegible]
PERMIT STATUS: [illegible] WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

Type of Waste Injected: [illegible]

[illegible]

III. GEOLOGIC INFORMATION

Geological Description of Rock Units Penetrated by Well:

Name	Age	Depth	Thickness	Lithology
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Description of Injection Unit:

[illegible]

Hydrology of Fresh Water Aquifers in Vicinity:

Name	Depth	Thickness	Lithology	Fluid Character
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Mineral Resources in Area: [illegible]

Location of Other Wells in the Affected Area: [illegible]

IV. WASTE CHARACTERISTICS

Physical Description: [illegible]

[illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

[illegible]

Type and Amount of Cement: [illegible]

Well Head Equipment: [illegible]

Subsurface Equipment: [illegible]

[illegible]

VI. OPERATING CHARACTERISTICS

Injection Rates: [illegible]

Injection Pressure: [illegible]

[illegible]

VII. MONITORING

[illegible]

MISCELLANEOUS

[illegible]

OPERATING COMPANY: [illegible]
ADDRESS [illegible], LOUISIANA

OPERATIONAL STATUS: [illegible] REGION NO.: [illegible]
PERMIT STATUS: [illegible] WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

Type of Waste Injected: [illegible]

Name, Age, and Depth of Injection Zone: [illegible]

[illegible]

III. GEOLOGIC INFORMATION

Geological Description of Rock Units Penetrated by Well:

Name	Age	Depth	Thickness	Lithology
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Description of Injection Unit:

[illegible]

Hydrology of Fresh Water Aquifers in Vicinity

Name	Depth	Thickness	Lithology	Fluid Character
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Mineral Resources in Area: [illegible]

Location of Other Wells in the Affected Area: [illegible]

IV. WASTE CHARACTERISTICS

Chemical Description: [illegible]

[illegible]

Reaction with Surface Equipment: [illegible]

Degradability Level and Rate: [illegible]

Biological Level Before and After Injection: [illegible]

Pre-Injection Waste Treatment: [illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

[illegible]

Type and Amount of Cement: [illegible]

Well Head Equipment: [illegible]

Subsurface Equipment: [illegible]

Completion Method: [illegible]

Plugging Record: [illegible]

Holding Tanks and Flow Lines: [illegible]

Filters: [illegible]

Pumps: [illegible]

Total Cost of Construction: [illegible]

VI. OPERATING CHARACTERISTICS

Injection Rates: [illegible]

Injection Pressure: [illegible]

Operating History and/or Problems: [illegible]

VII. MONITORING

Monitoring Devices and Data: [illegible]

Sampling Frequency and Water Quality Parameters Measured: [illegible]

Frequency of Measuring Water Levels and Hydrostatic Heads: [illegible]

Contingency Plan for Well Failure During Operation: [illegible]

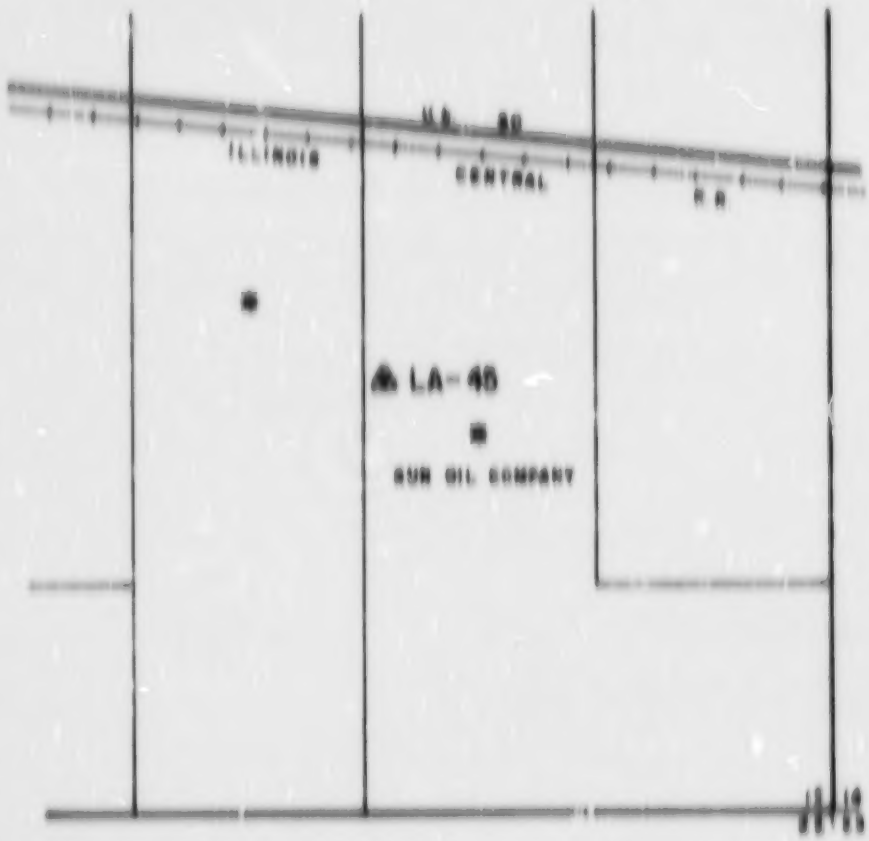
Construction Requirements: [illegible]

Monitoring Requirements: [illegible]

Restrictions on Operation Procedures: [illegible]

MISCELLANEOUS

[illegible]



T17N - R6E
RICHLAND PARISH

SCALE: 1" = 1000'

Figure 79. Location map of well LA-45

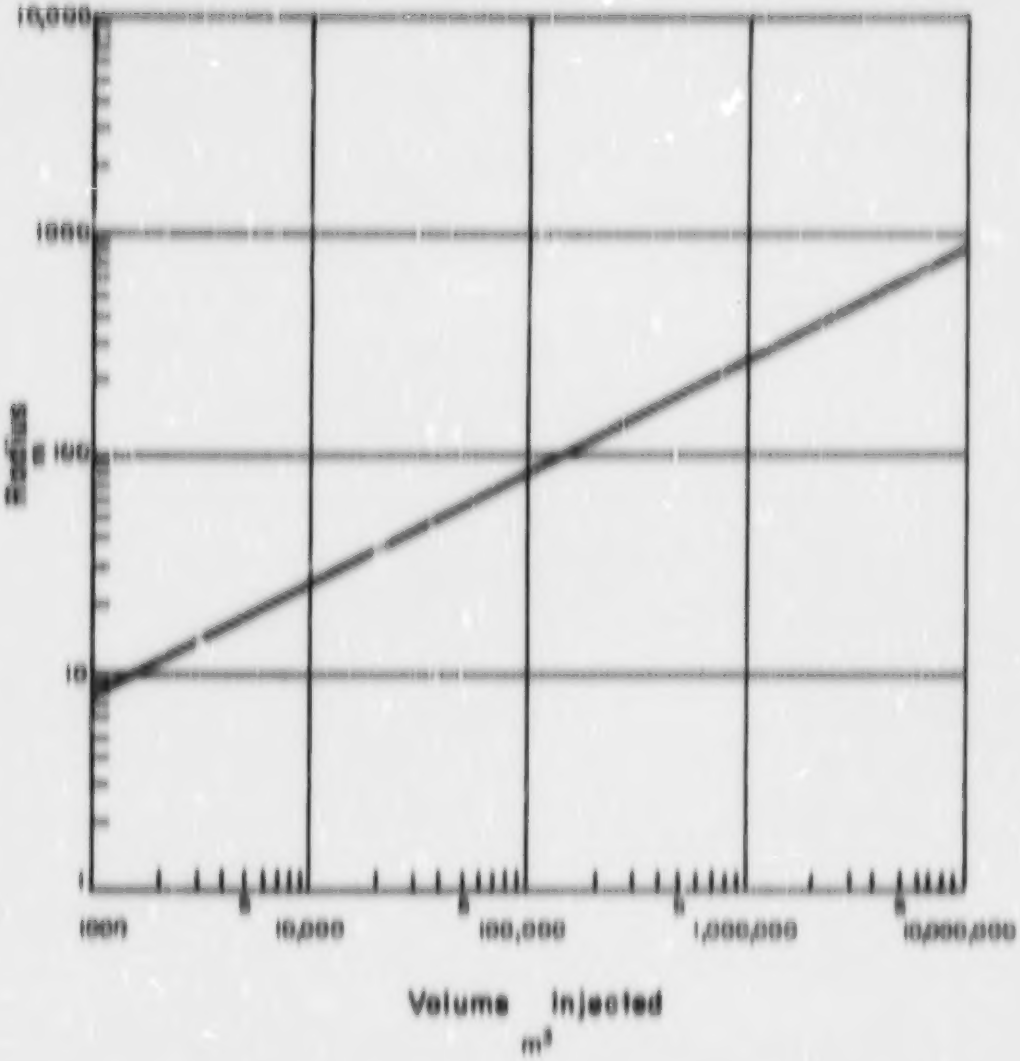


Figure 80. Radius of invasion for well LA-45

OPERATING COMPANY: [illegible]
ADDRESS: [illegible]

OPERATIONAL STATUS: [illegible] REGION NO.: [illegible]
PERMIT STATUS: [illegible] WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

Type of Waste Injected: [illegible]

Name, Age, and Depth of Injection Zone: [illegible]

III. GEOLOGIC INFORMATION

Geological Description of Rock Units Penetrated by Well:

Name	Age	Depth	Thickness	Lithology
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Description of Injection Unit: [illegible]

Hydrology of Fresh Water Aquifers in Vicinity:

Name	Depth	Thickness	Lithology	Fluid Character
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Mineral Resources in Area: [illegible]

Location of Other Wells in the Affected Area: [illegible]

IV. WASTE CHARACTERISTICS

[illegible]

Reaction with Surface Equipment: [illegible]

Degradability Level and Rate: [illegible]

Biological Level Before and After Injection: [illegible]

Pre-Injection Waste Treatment: [illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

[illegible]

Type and Amount of Cement: [illegible]

Well Head Equipment: [illegible]

Subsurface Equipment: [illegible]

Completion Method: [illegible]

Plugging Record: [illegible]

Holding Tanks and Flow Lines: [illegible]

VI. OPERATING CHARACTERISTICS

Injection Rates: [illegible]

Injection Pressure: [illegible]

Operating History: [illegible]

VII. MONITORING

Monitoring Devices and Data: [illegible]

Sampling Frequency and Water Quality Parameters Measured: [illegible]

Frequency of Measuring Water Levels and Hydrostatic Heads: [illegible]

Contingency Plan for Well Failure During Operation: [illegible]

Monitoring Requirements: [illegible]

Restrictions on Operating Procedure: [illegible]

REFERENCES

[illegible]

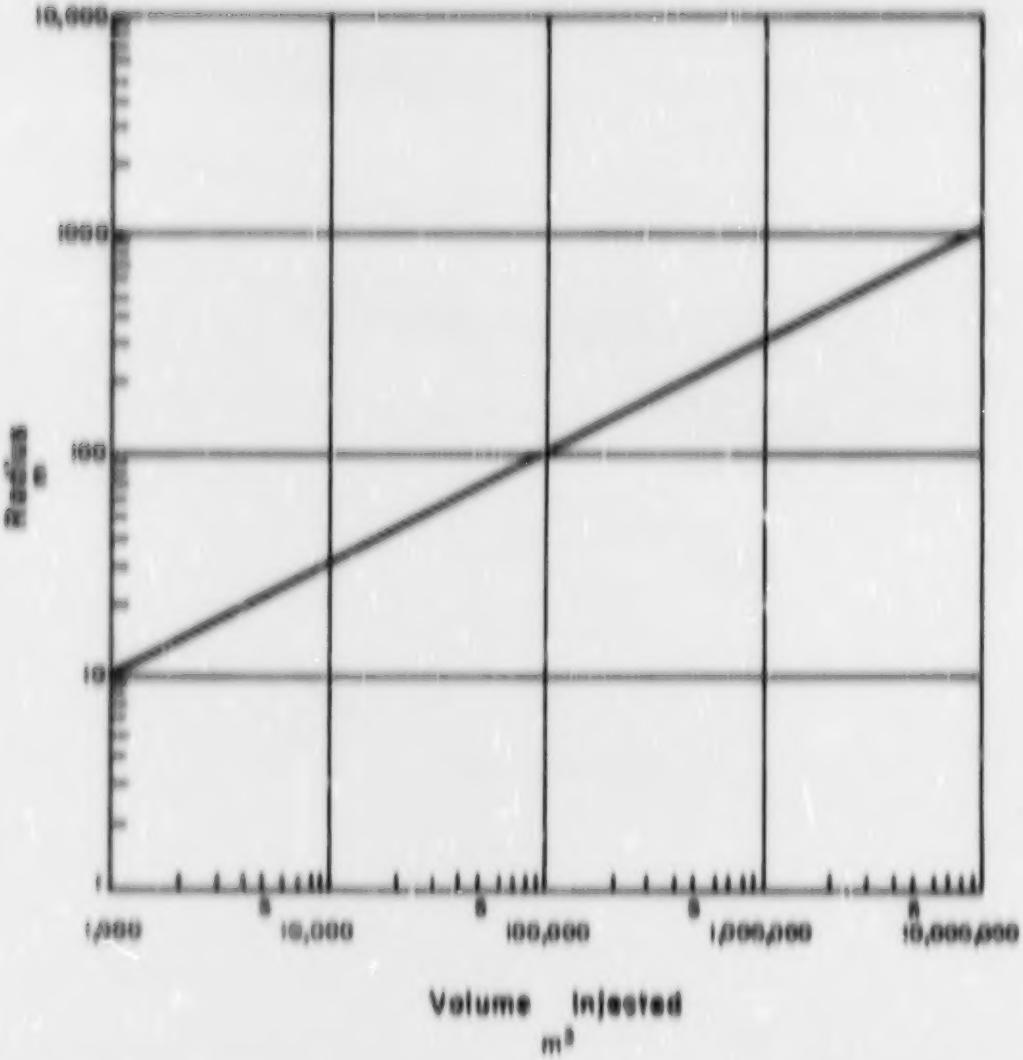


Figure 61 . Radius of invasion for well LA-46

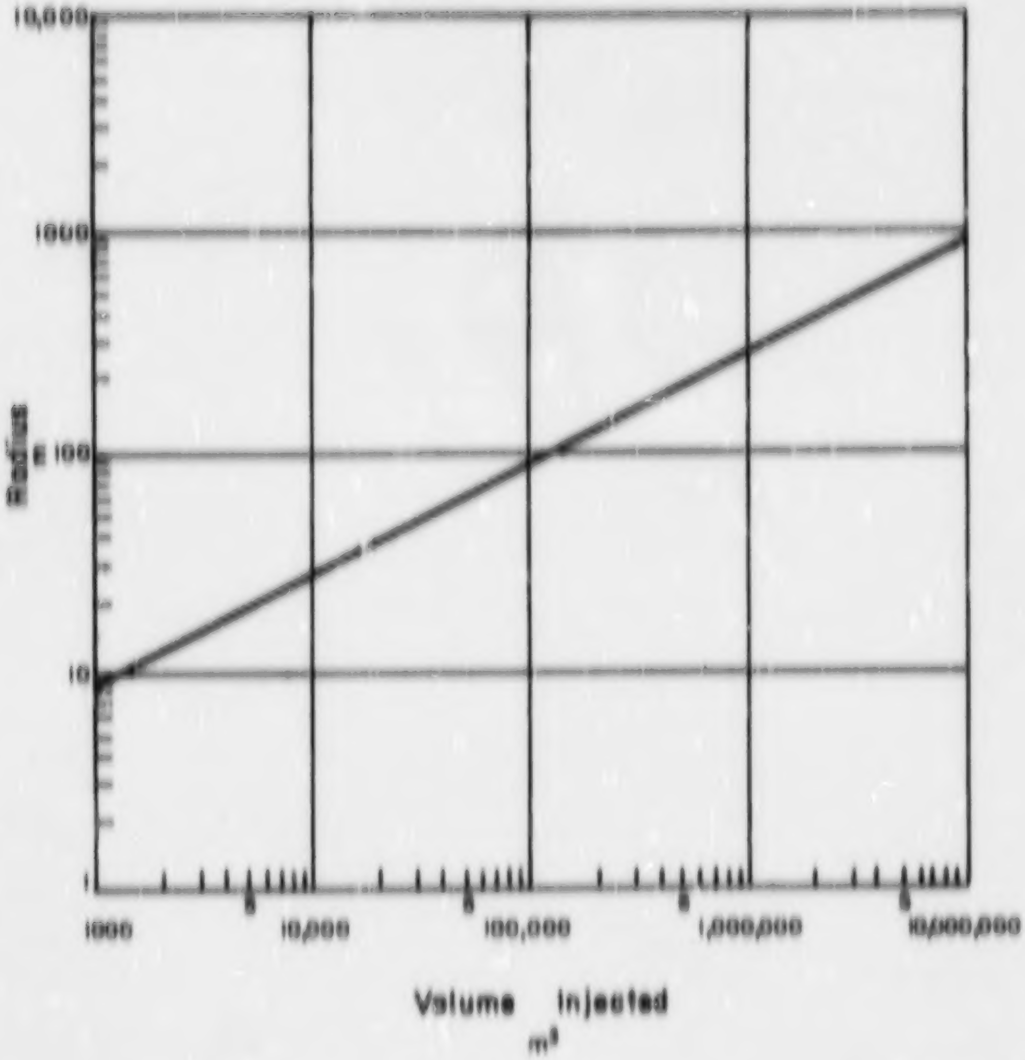


Figure 82. Radius of invasion for well LA-47

OPERATING COMPANY: [illegible]
ADDRESS: [illegible]

OPERATIONAL STATUS: [illegible] REGION NO.: [illegible]
PERMIT STATUS: [illegible] WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

Type of Waste Injected: [illegible]

[illegible]

III. GEOLOGIC INFORMATION

Geological Description of Rock Units Penetrated by Well:

Name	Age	Depth	Thickness	Lithology
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Description of Injection Unit: [illegible]

Name	Depth	Thickness	Lithology	Fluid Character
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Mineral Resources in Area: [illegible]

Location of Other Wells in the Affected Area: [illegible]

IV. WASTE CHARACTERISTICS

Chemical Description: [illegible]

[illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

[illegible]

Type and Amount of Cement: [illegible]

Well Head Equipment: [illegible]

Subsurface Equipment: [illegible]

Completion Method: [illegible]

Plugging Record: [illegible]

Holding Tanks and Flow Lines: [illegible]

Filters: [illegible]

Total Cost of Construction: [illegible]

VI. OPERATING CHARACTERISTICS

Injection Rates: [illegible]

Injection Pressure: [illegible]

Operating History and/or Problems: [illegible]

VII. MONITORING

Monitoring Devices and Data: [illegible]

Sampling Frequency and Water Quality Parameters Measured: [illegible]

Frequency of Measuring Water Levels and Hydrostatic Heads: [illegible]

Contingency Plan for Well Failure During Operation: [illegible]

Construction Requirements: [illegible]

Monitoring Requirements: [illegible]

Modification in Operating Procedures: [illegible]

Miscellaneous: [illegible]

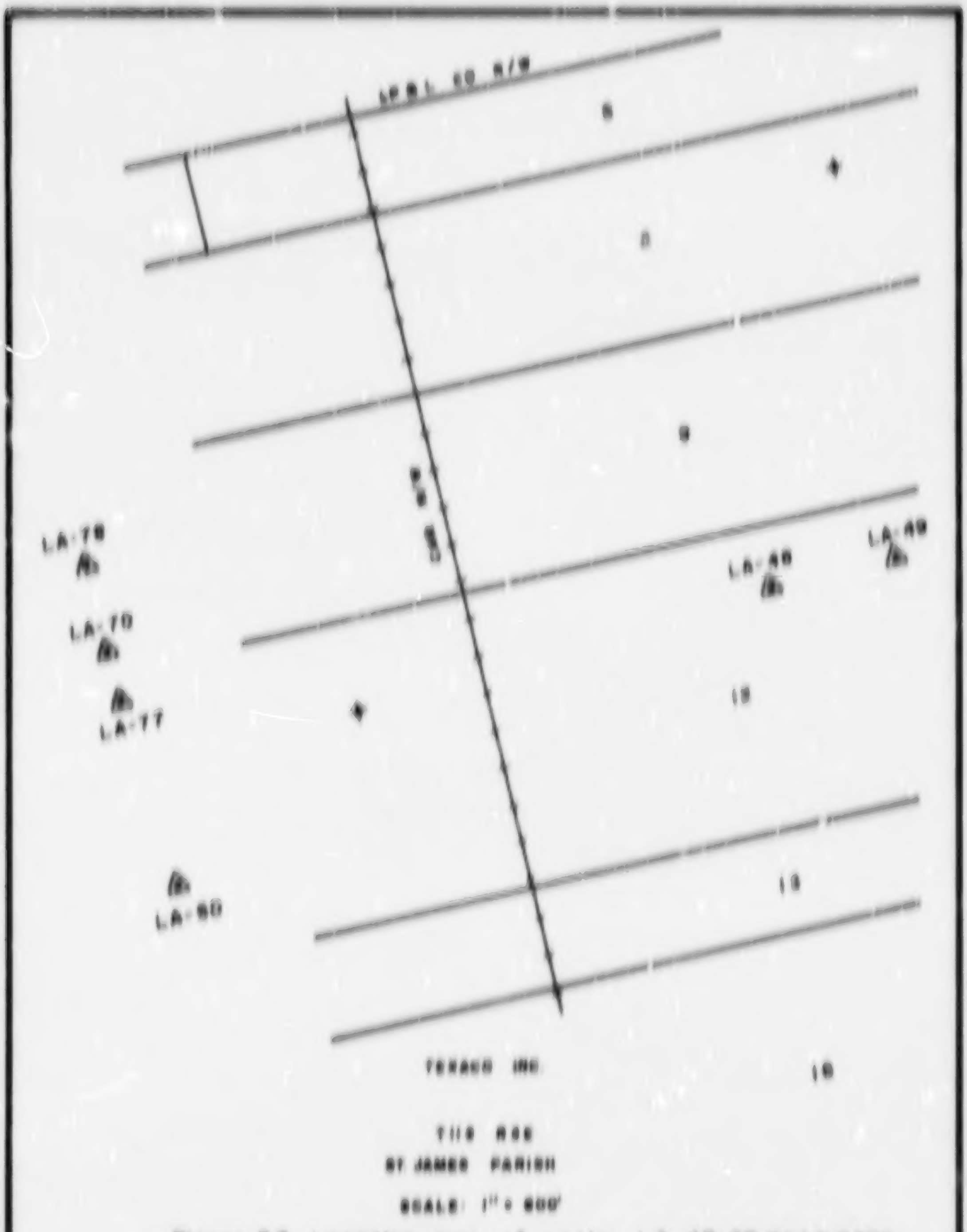


Figure B3. Location map of wells LA-48,49,50,70,77,78

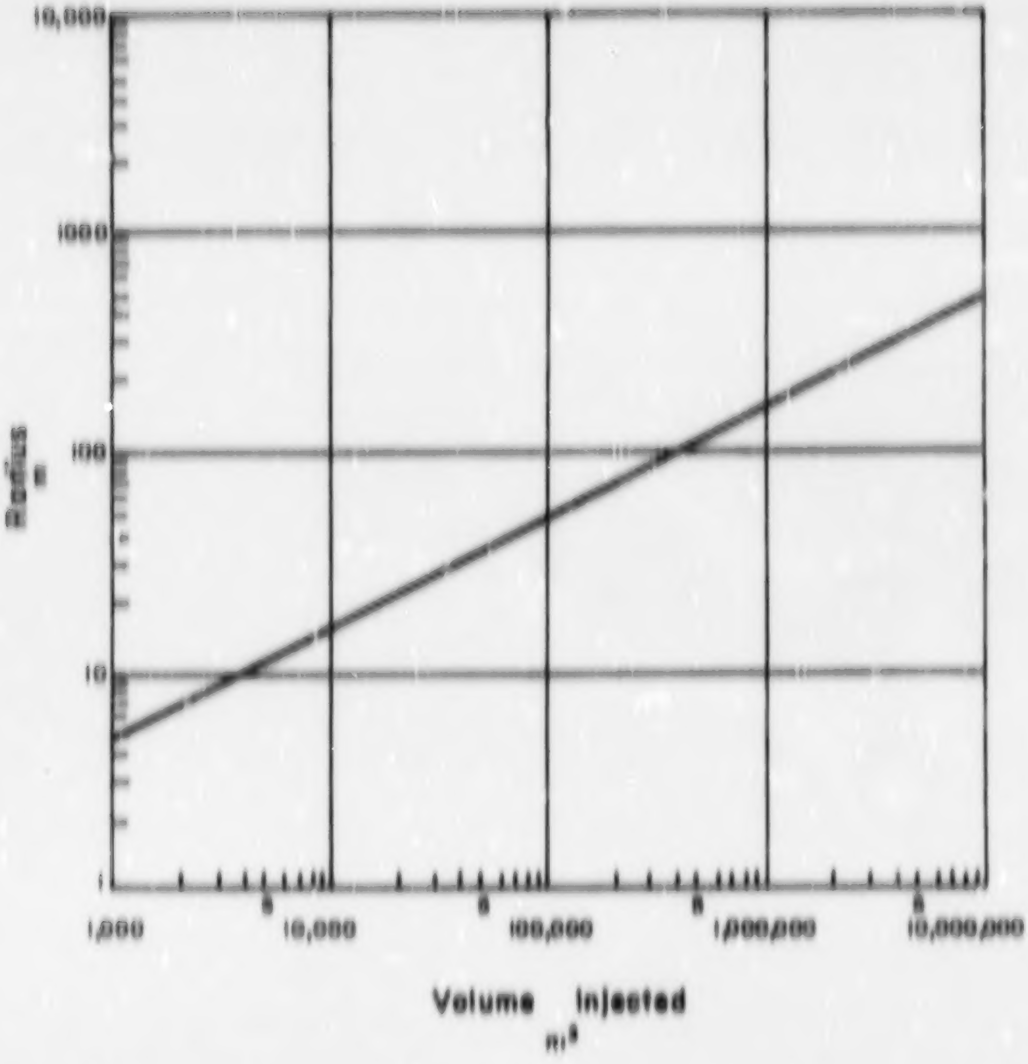


Figure 64 . Radius of invasion for well LA-48

[illegible]

[illegible]

[illegible]

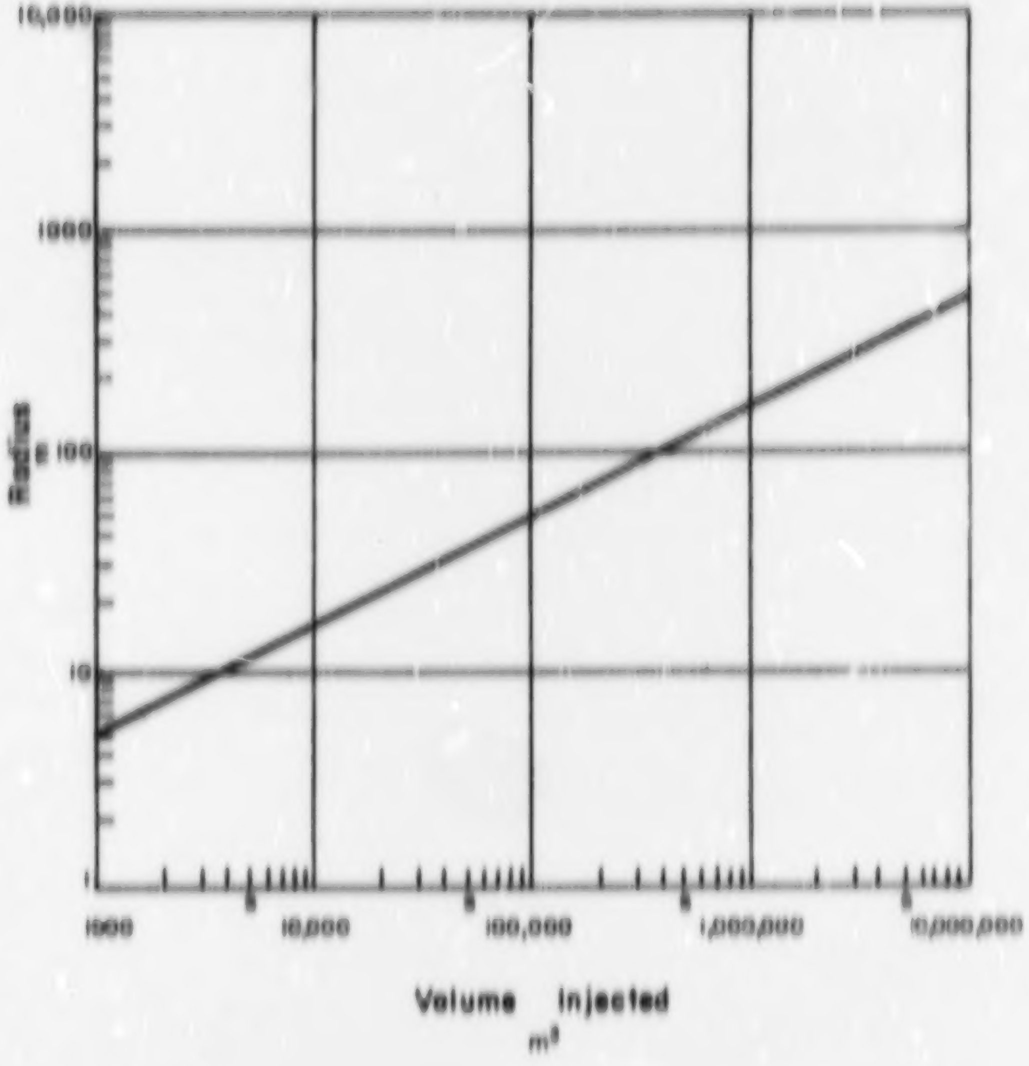


Figure 65. Radius of invasion for well LA-49

I. GENERAL IDENTIFICATION DATA

II. GENERAL WELL DATA

III. GEOLOGIC INFORMATION

IV. WASTE CHARACTERISTICS

V. WELL DESIGN AND SURFACE EQUIPMENT

VI. OPERATING CHARACTERISTICS

VII. MONITORING

MISCELLANEOUS

[illegible]

III. GEOLOGIC INFORMATION

Geological Description of Rock Units Penetrated by Well:

Name	Age	Depth	Thickness	Lithology
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Description of Injection Unit

[illegible]

Name	Depth	Thickness	Lithology	Fluid Contained
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Mineral Resources in Area: [illegible]

[illegible]

[illegible]

[redacted]

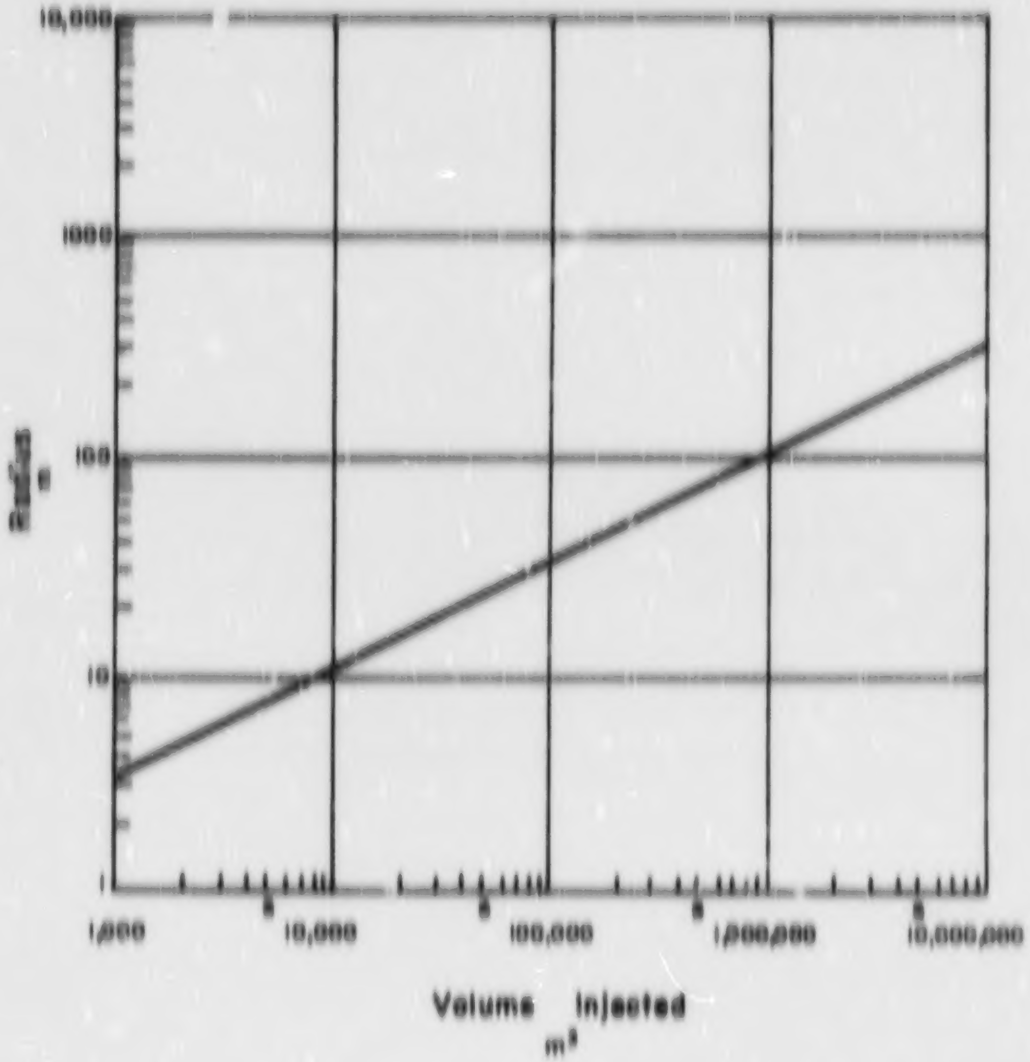


Figure 86 . Radius of invasion for well LA-52

[redacted]

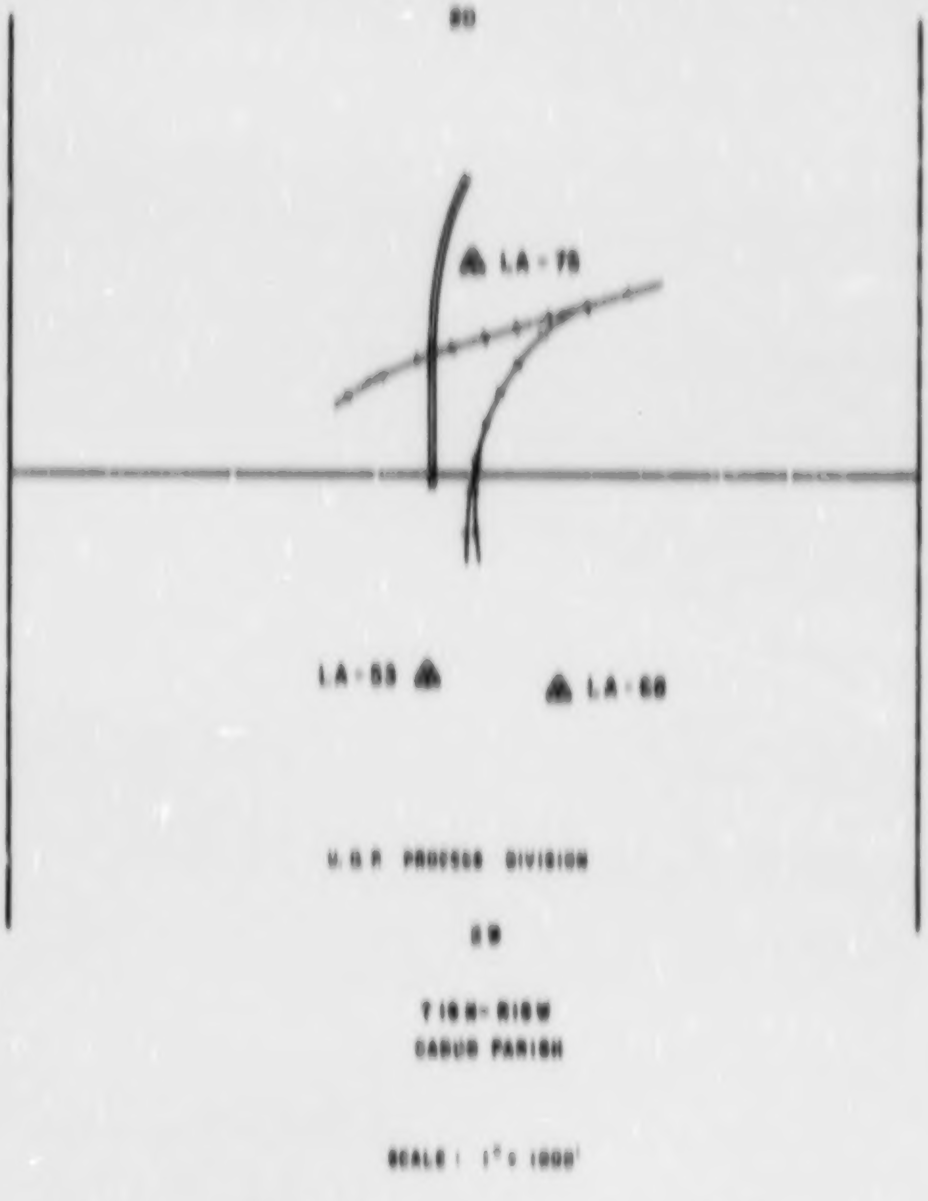


Figure 67. Location map of wells LA-53,60,75

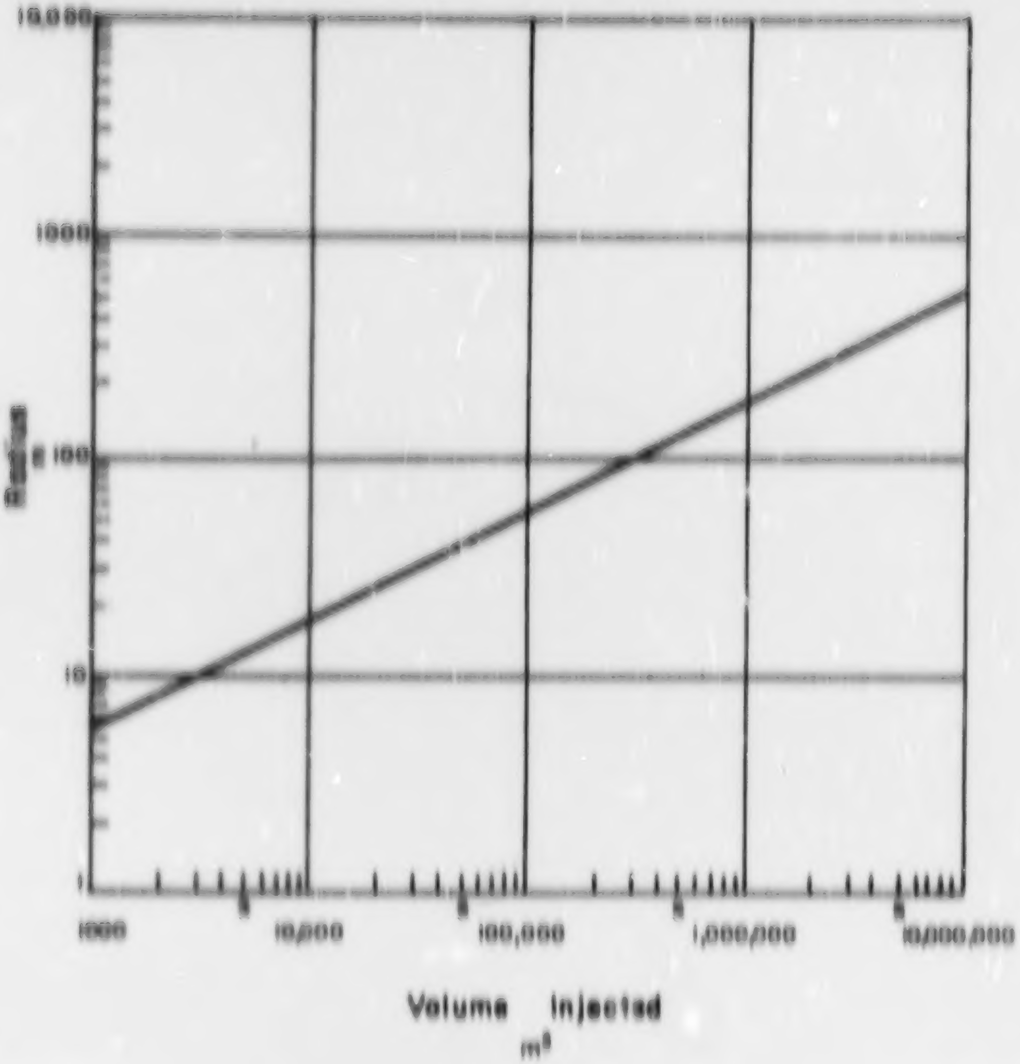
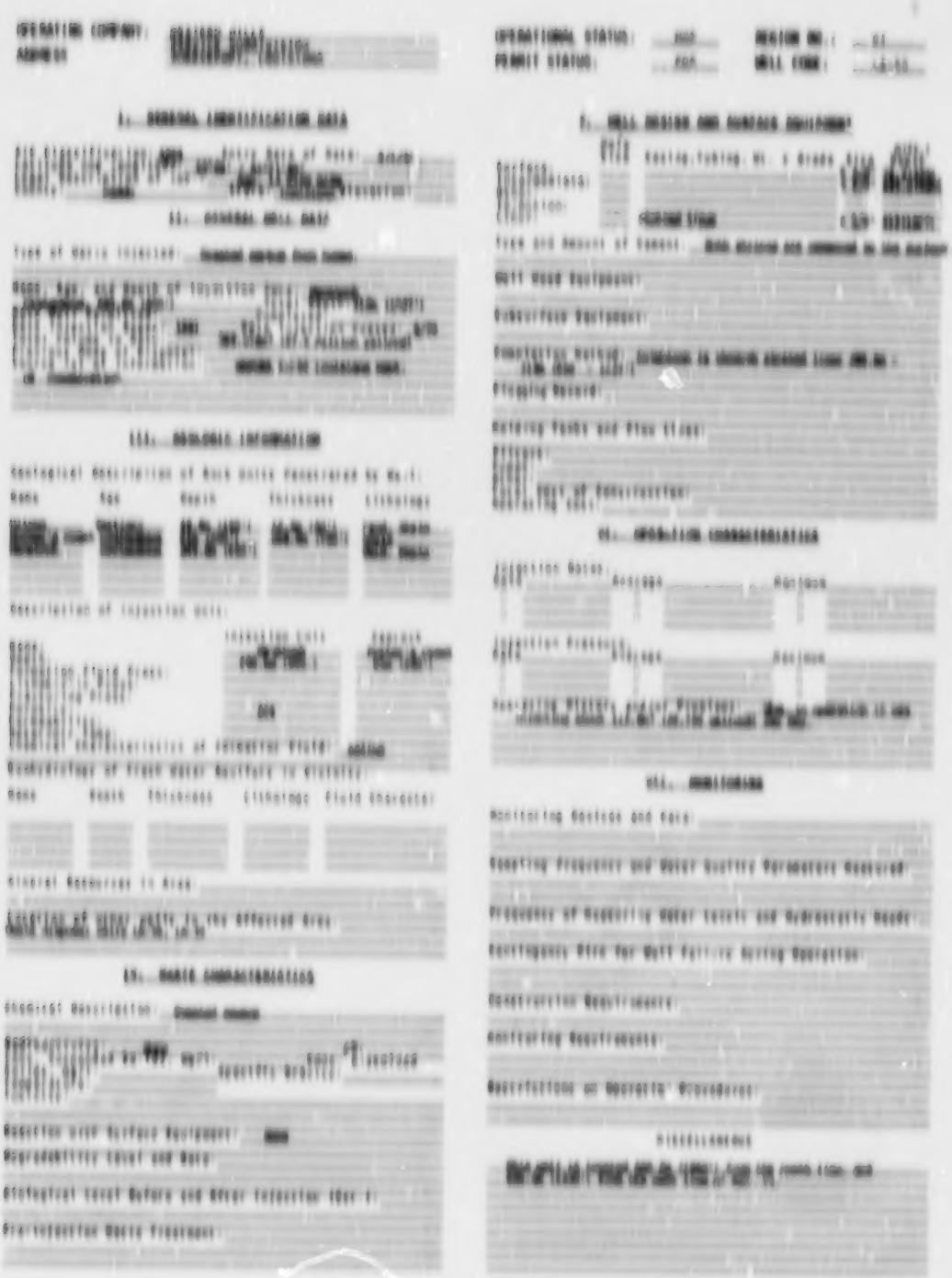


Figure 85 : Radius of invasion for well LA-53

[redacted]

[redacted]

[redacted]



OPERATING COMPANY: [illegible]
ADDRESS [illegible]

OPERATIONAL STATUS: [illegible] REGION NO.: [illegible]
PERMIT STATUS: [illegible] WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

Type of Waste Injected: [illegible]

[illegible]

III. GEOLOGIC INFORMATION

Geological Description of Rock Units Penetrated by Well:

Name Age Depth Thickness Lithology

[illegible]

Description of Injection Unit:

[illegible]

Geohydrology of Fresh Water Aquifers in Vicinity:

Name Depth Thickness Lithology Fluid Character

Mineral Resources in Area:

Location of other wells in the Affected Area: [illegible]

IV. WASTE CHARACTERISTICS

Chemical Description: [illegible]

[illegible]

Reaction with Surface Equipment: [illegible]

Degradability Level and Rate:

Biological Level Before and After Injection (Yes 1):

Pre-injection Waste Treatment:

V. WELL DESIGN AND SURFACE EQUIPMENT

Casing/Tubing Wt. & Grade Size [illegible]

Type and Amount of Cement: [illegible]

Well Head Equipment:

Subsurface Equipment:

Completion Method: [illegible]

Plugging Record:

Holding Tanks and Flow Lines:

[illegible]

VI. OPERATING CHARACTERISTICS

Injection Rates:
Date Average Maximum

Injection Pressure:
Date Average Maximum

Operating History and/or Problems: [illegible]

VII. MONITORING

Monitoring Devices and Data:

Sampling Frequency and Water Quality Parameters Measured:

Frequency of Reporting Water Levels and Hydrostatic Heads:

Contingency Plan for Well Failure During Operation:

Construction Requirements:

Monitoring Requirements:

Restrictions on Operating Procedures:

MISCELLANEOUS

[illegible]

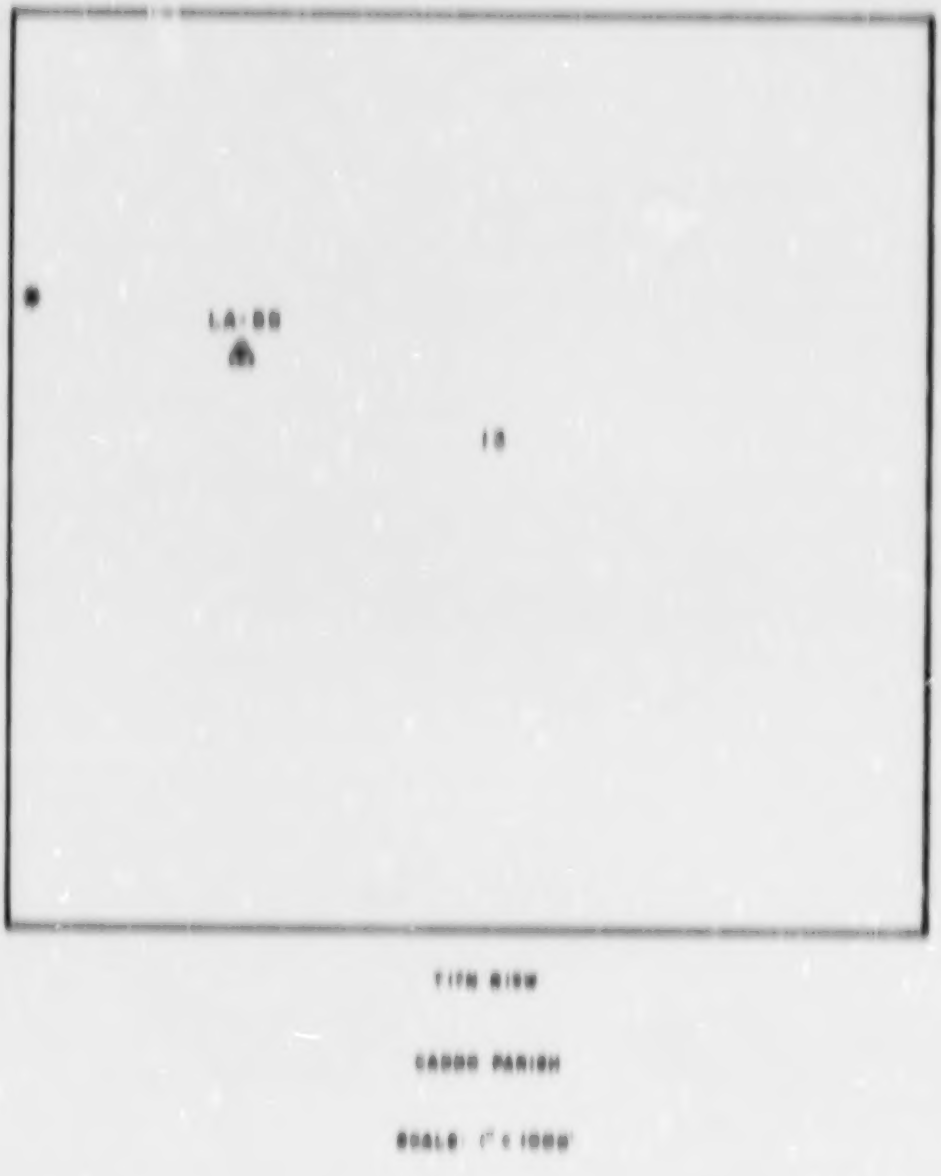


Figure 99. Location map of well LA-55

OPERATING COMPANY:

ADDRESS

OPERATIONAL STATUS:

PERMIT STATUS:

REGION NO.:

WELL CODE:

I. GENERAL IDENTIFICATION DATA

II. GENERAL WELL DATA

Type of Waste Injected:

III. GEOLOGIC INFORMATION

Geological Description of Rock Units Penetrated by Well:

Name	Age	Depth	Thickness	Lithology
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Description of Injection Unit:

Hydrogeology of Fresh Water Aquifers to Protect:

Name	Depth	Thickness	Lithology	Fluid Character

Mineral Resources in Area:

Location of other wells in the Affected Area:

IV. WASTE CHARACTERISTICS

Chemical Description:

Reaction with Surface Equipment:

Degradability Level and Rate:

Biological Level Before and After Injection (Col.):

Pre-Injection Waste Treatment:

V. WELL DESIGN AND SURFACE EQUIPMENT

Type and Amount of Cement:

Well Head Equipment:

Subsurface Equipment:

Completion Method:

Plugging Record:

Holding Tanks and Flow Lines:

VI. OPERATING CHARACTERISTICS

Injection Rates:

Injection Pressure:

Operating History and/or Problems:

VII. MONITORING

Monitoring Devices and Data:

Sampling Frequency and Water Quality Parameters Measured:

Frequency of Measuring Water Levels and Hydrostatic Heads:

Contingency Plan for Well Failure During Operation:

Construction Requirements:

Monitoring Requirements:

Restrictions on Operating Procedure:

MISCELLANEOUS

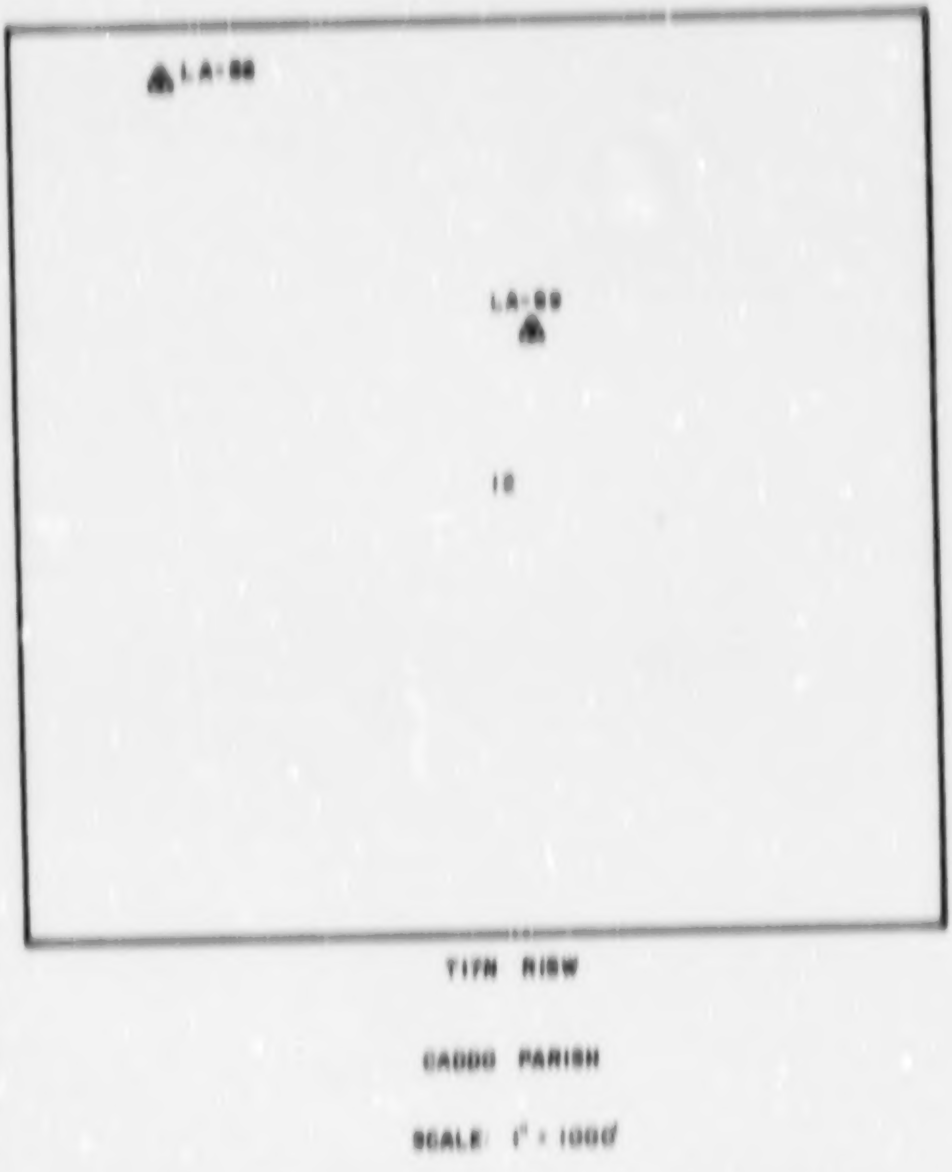


Figure 90. Location map of wells LA-58,59

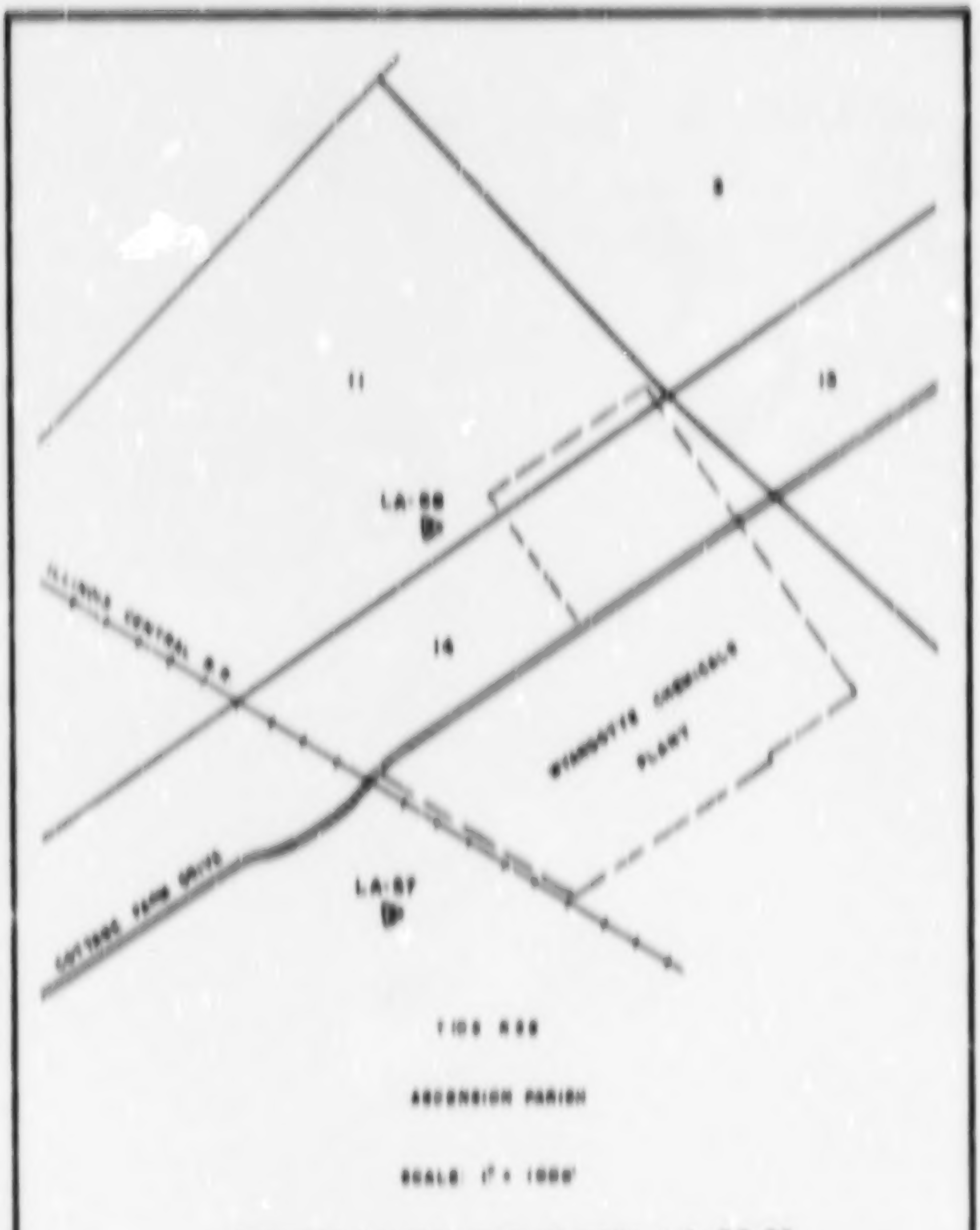


Figure 51. Location map of wells LA-57, 58

OPERATING COMPANY: [illegible]
ADDRESS: [illegible]

OPERATIONAL STATUS: [illegible] REGION NO.: [illegible]
PERMIT STATUS: [illegible] WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

Type of Waste Injected: [illegible]

[illegible]

III. GEOLOGIC INFORMATION

Geological Description of Rock Units Penetrated by Well:

Name	Age	Depth	Thickness	Lithology
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Description of Injection Unit:

	Injection Unit	Caprock
[illegible]	[illegible]	[illegible]

Name	Depth	Thickness	Lithology	Fluid Character
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Mineral Resources in Area: [illegible]

Location of other wells in the affected area: [illegible]

IV. WASTE CHARACTERISTICS

Chemical Description: [illegible]

[illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

	Hole Size	Casing, Tubing Wt. & Grade	Size	Depth
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Type and Amount of Cement: [illegible]

Well Head Equipment: [illegible]

Subsurface Equipment: [illegible]

Completion Method: [illegible]

Plugging Record: [illegible]

Drilling Tools and Pipe Used: [illegible]

[illegible]

VI. OPERATING CHARACTERISTICS

[illegible]

VII. MONITORING

Monitoring Devices and Data: [illegible]

[illegible]

REFERENCES

[illegible]

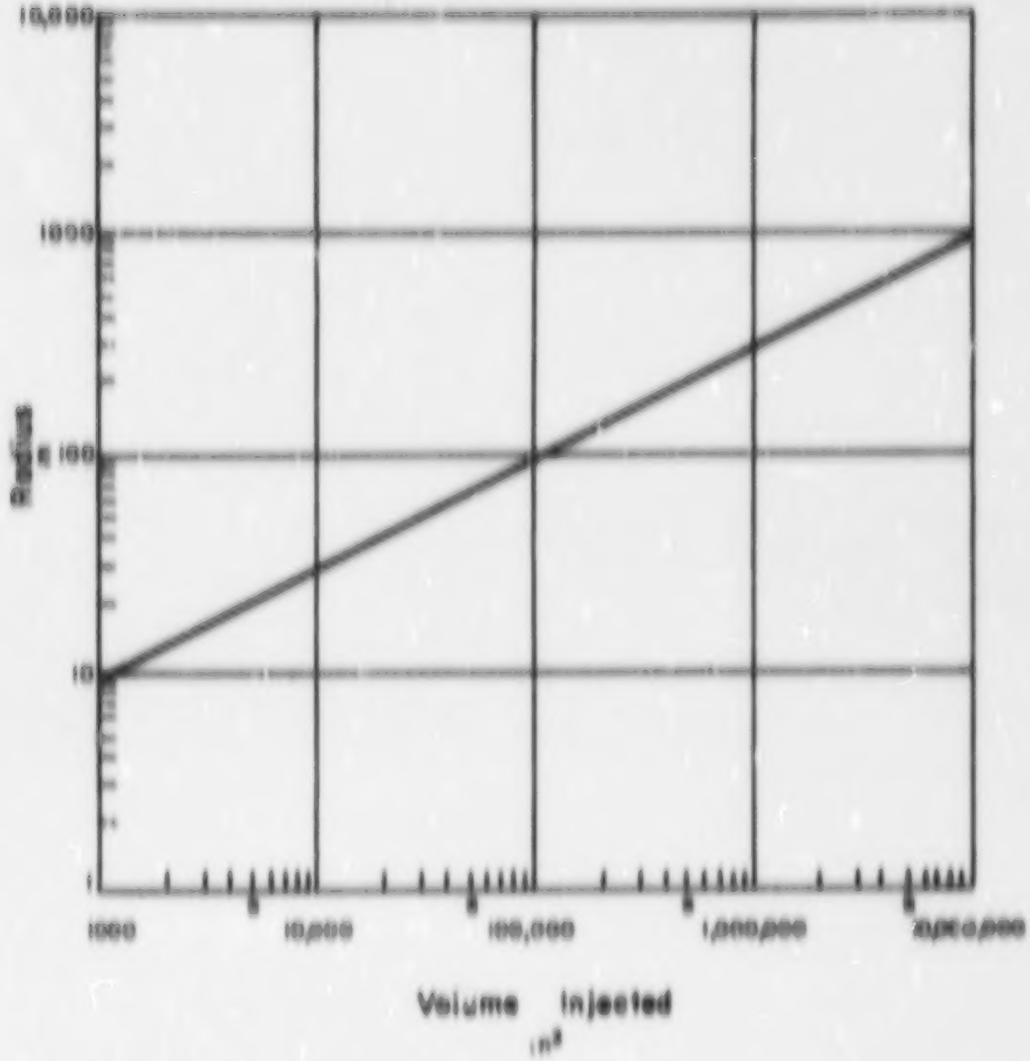


Figure 92. Radius of invasion for well LA-59

[redacted]

OPERATING COMPANY:
ADDRESS

OPERATIONAL STATUS:
PERMIT STATUS:
REGION NO.:
WELL CODE:

I. GENERAL IDENTIFICATION DATA

II. GENERAL WELL DATA

III. GEOLOGIC INFORMATION

IV. WASTE CHARACTERISTICS

V. WELL DESIGN AND SURFACE EQUIPMENT

VI. OPERATING CHARACTERISTICS

VII. MONITORING

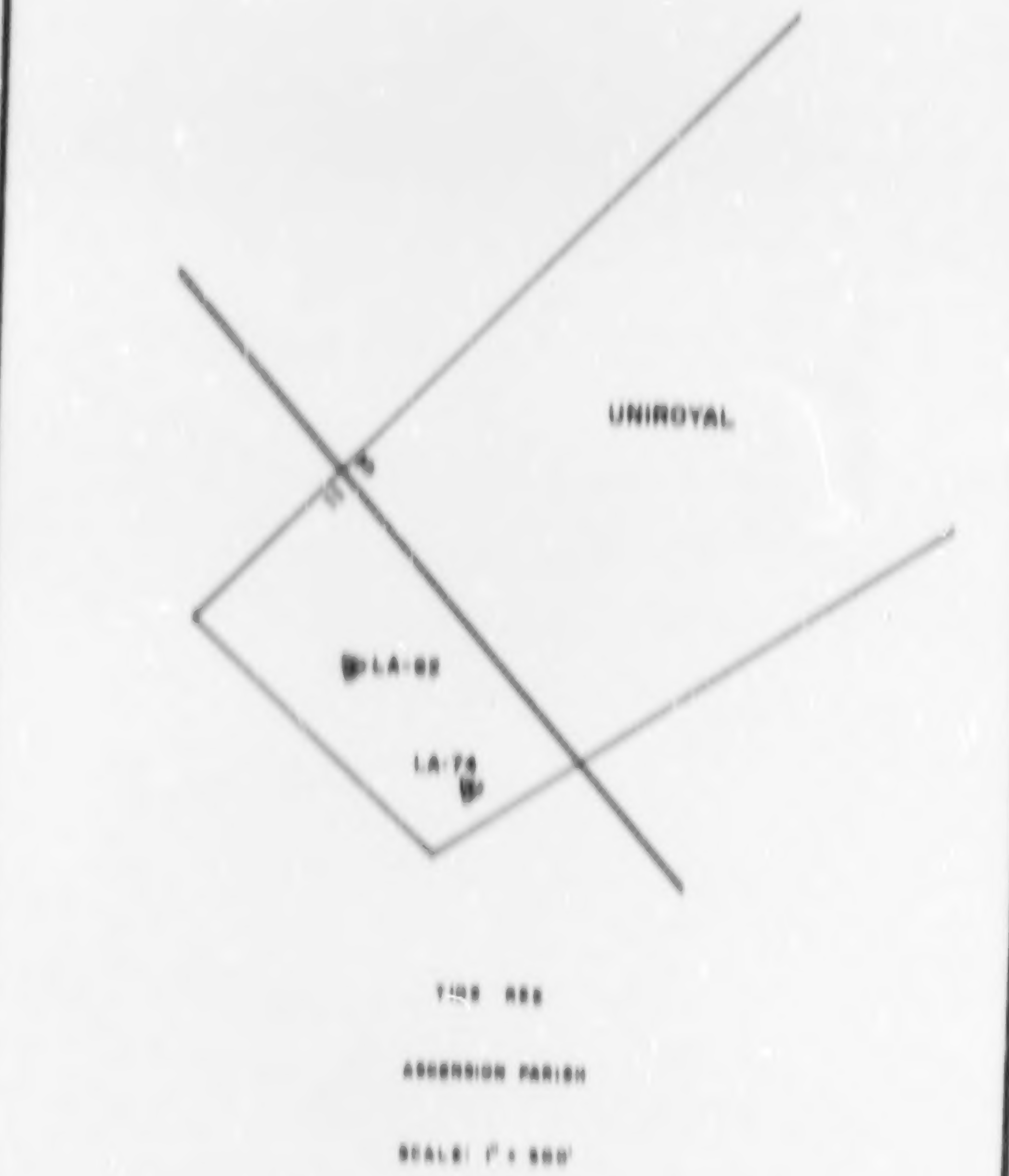


Figure 93 Location map of wells LA-62,74

Figure 94. Location map of wells LA-63, 64

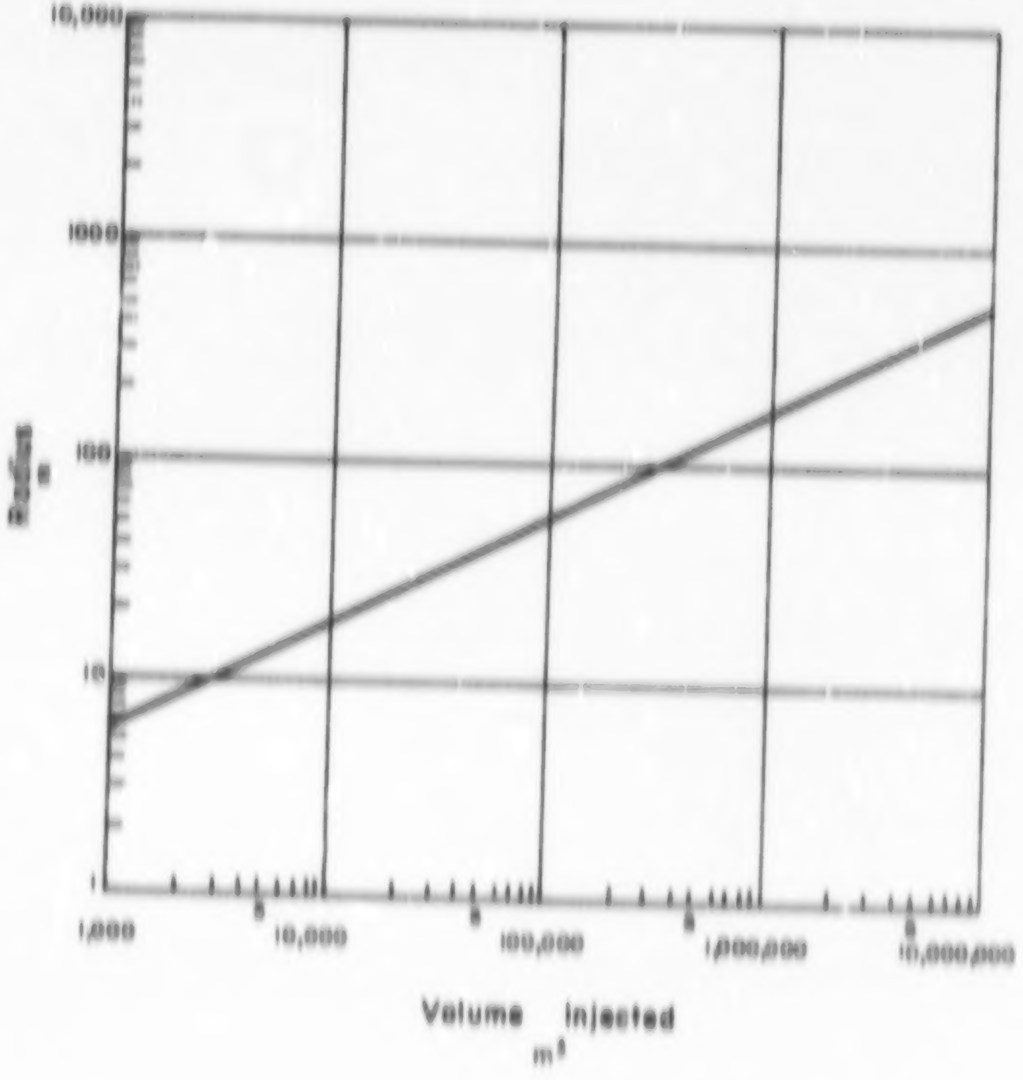


Figure 95 - Radius of invasion for well LA-65

[redacted]

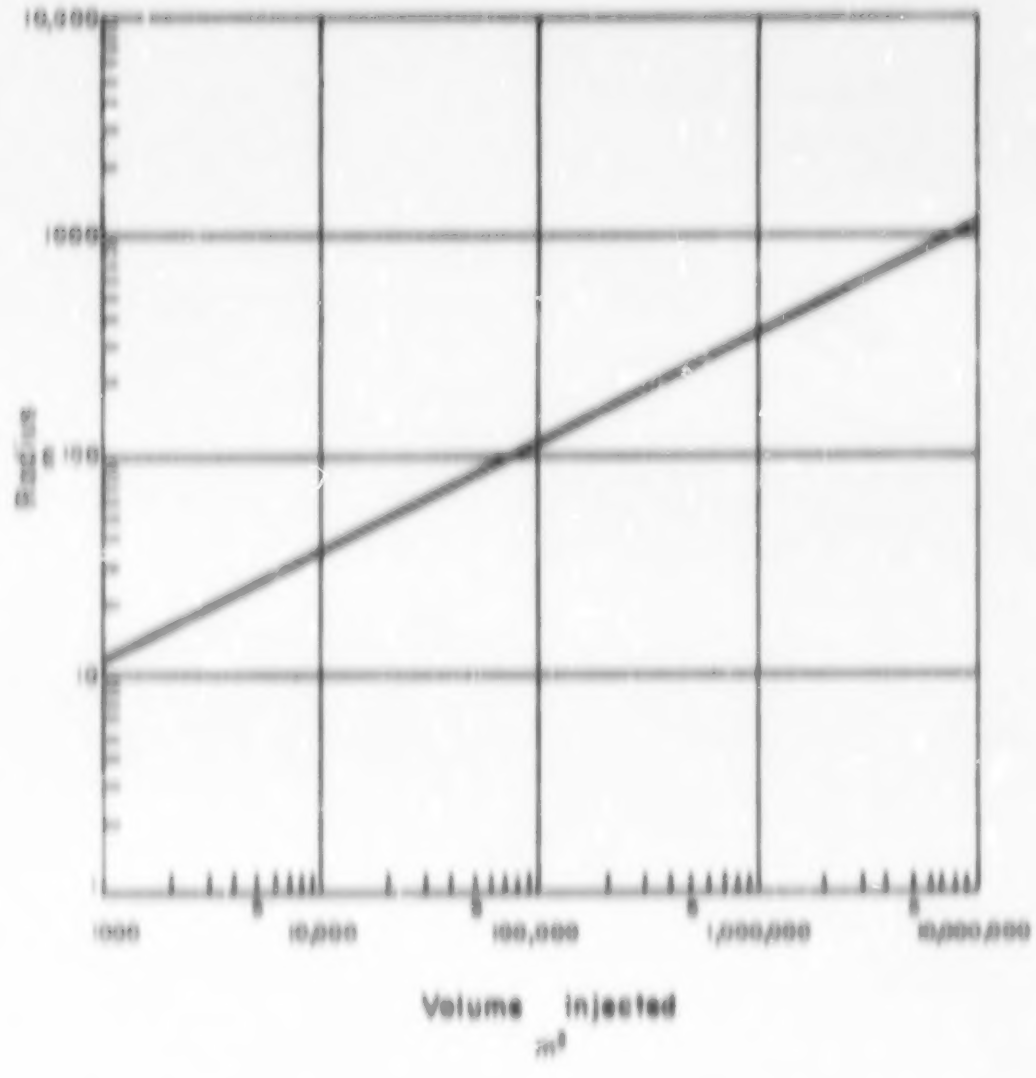


Figure 96. Radius of invasion for well LA-68

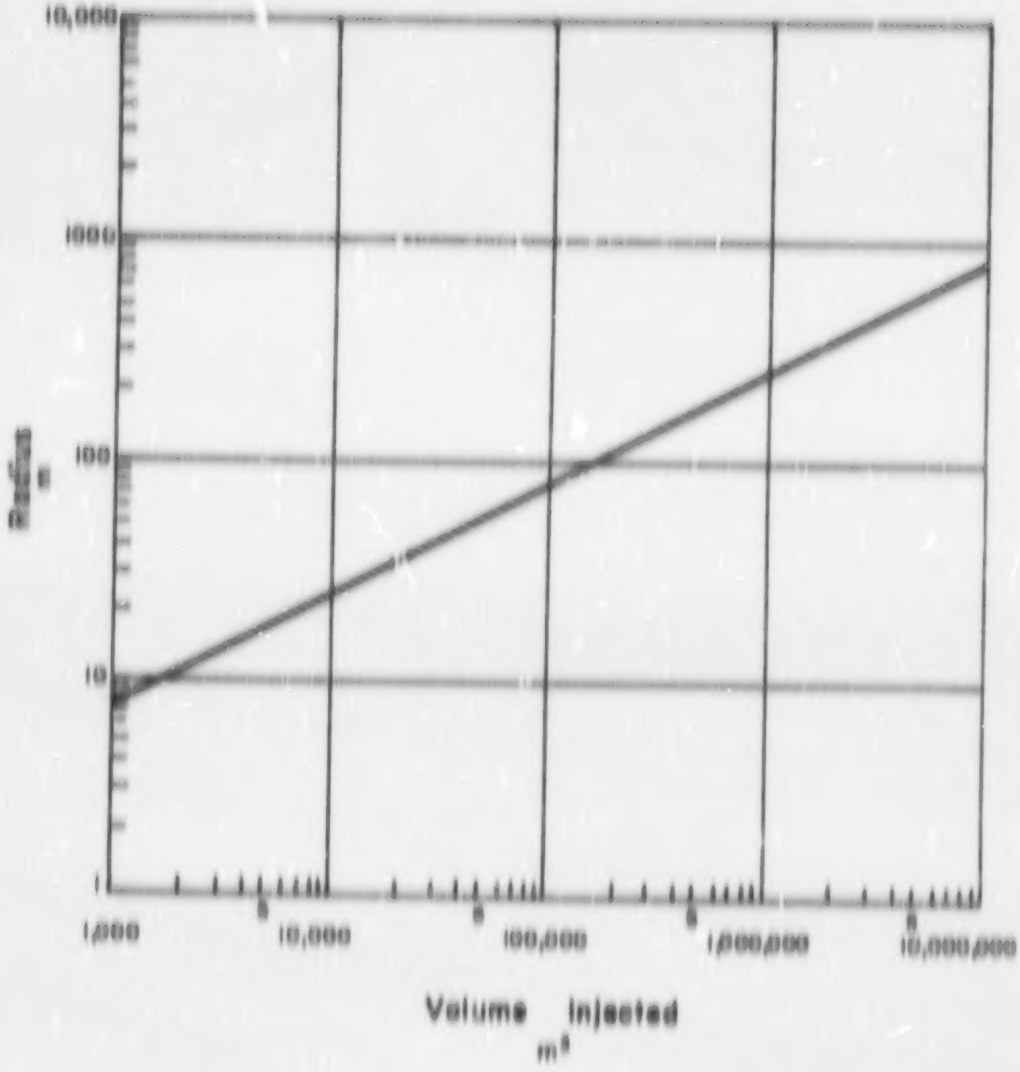


Figure 97. Radius of invasion for well LA-69

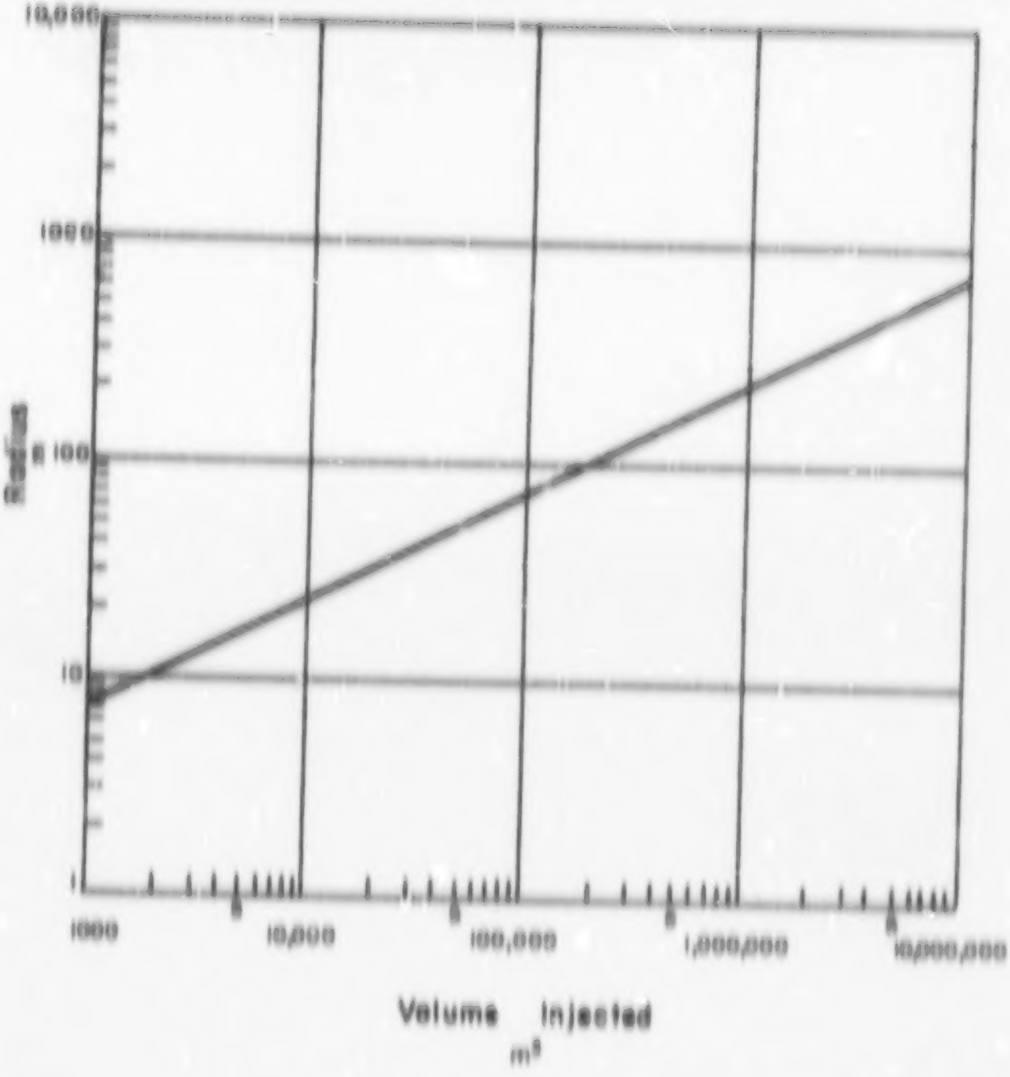


Figure 98 Radius of invasion for well LA-7S

[redacted]

[redacted]

[redacted]

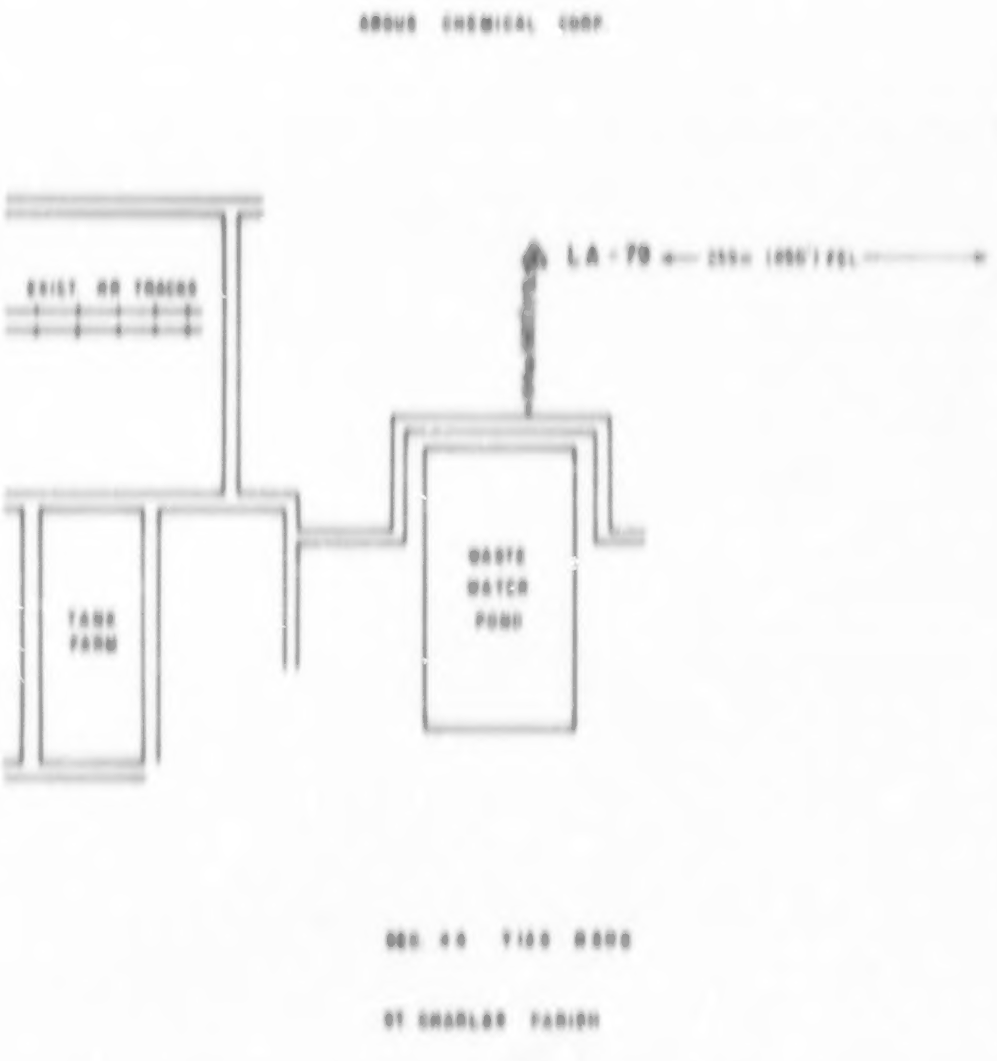


Figure 99. Location map of well LA-79

OPERATING COMPANY: [illegible]
ADDRESS: [illegible]

OPERATIONAL STATUS: [illegible] REGION NO.: [illegible]
PERMIT STATUS: [illegible] WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

Type of Waste Injected: [illegible]

Name, Age, and Depth of Injection Zone: [illegible]

[illegible]

III. GEOLOGIC INFORMATION

Geological Description of Rock Units Penetrated by Well:

Name	Age	Depth	Thickness	Lithology
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Description of Injection Unit:

	Injection Unit	Caprock
Name:	[illegible]	[illegible]
Depth:	[illegible]	[illegible]
Formation Fluid Press.:	[illegible]	[illegible]
Geothermal Grad.:	[illegible]	[illegible]
Fracturing Grad.:	[illegible]	[illegible]
Porosity:	[illegible]	[illegible]
Permeability:	[illegible]	[illegible]
Reservoir Temp.:	[illegible]	[illegible]

Chemical Characteristics of Formation Fluid: [illegible]

Hydrogeology of Fresh Water Aquifers in Area, etc.:

Name	Depth	Thickness	Lithology	Fluid Character
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Mineral Resources in Area: [illegible]

Location of Other Wells in the Affected Area: [illegible]

IV. WASTE CHARACTERISTICS

Chemical Description: [illegible]

[illegible]

Compatible with Surface Equipment: [illegible]

Degradability Level and Rate: [illegible]

Biological Level Before and After Injection: [illegible]

Pre-Injection Waste Treatment: [illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

[illegible]

Type and Amount of Cement: [illegible]

Well Head Equipment: [illegible]

Subsurface Equipment: [illegible]

Completion Method: [illegible]

Plugging Record: [illegible]

Holding Tanks and Flow Lines: [illegible]

Total Cost of Construction: [illegible]

Operating Cost: [illegible]

VI. OPERATING CHARACTERISTICS

Injection Rates: [illegible]

Injection Pressure: [illegible]

Operating History and/or Problems: [illegible]

VII. MONITORING

Monitoring Devices and Data: [illegible]

Sampling Frequency and Water Quality Parameters Measured: [illegible]

Frequency of Measuring Water Levels and Hydrostatic Heads: [illegible]

Contingency Plan for Well Failure During Operation: [illegible]

Abandonment Requirements: [illegible]

Monitoring Requirements: [illegible]

Restrictions on Operating Procedure: [illegible]

REFERENCES:

[illegible]

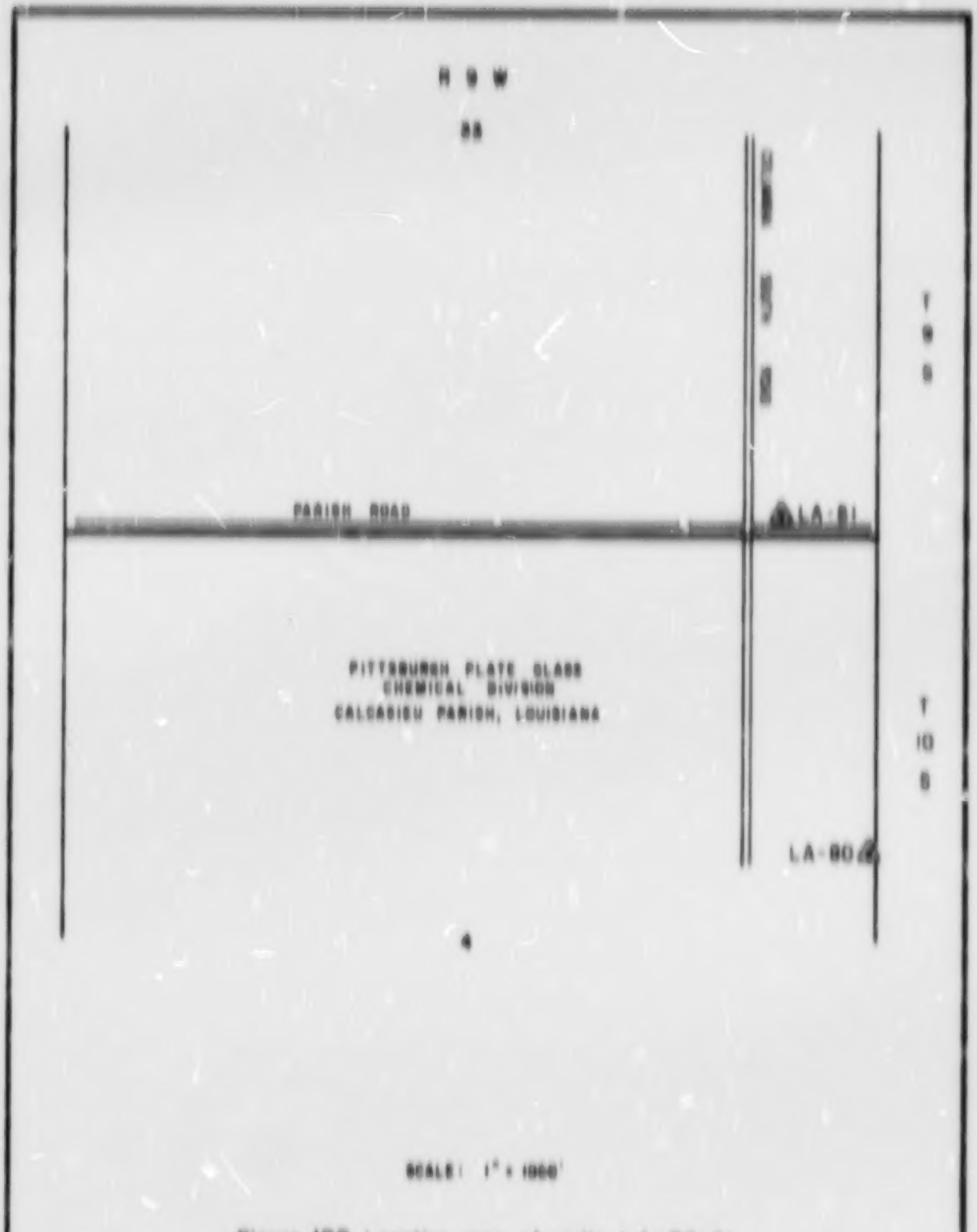


Figure 100. Location map of wells LA-80, 81

OPERATOR COMPANY: [illegible]
ADDRESS: [illegible]

OPERATIONAL STATUS: [illegible] REGION NO: [illegible]
PERMIT STATUS: [illegible] WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

Type of Waste Injected: [illegible]

[illegible]

III. GEOLOGIC INFORMATION

Geological Description of Rock Units Penetrated by Well:

Name	Age	Depth	Thickness	Lithology
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Description of Injection Unit: [illegible]

Mineral Resources in Area: [illegible]

Location of other wells in the affected area: [illegible]

IV. WASTE CHARACTERISTICS

[illegible]

Pre-Injection Waste Treatment: [illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

Type and Amount of Cement: [illegible]

Well Head Equipment: [illegible]

Subsurface Equipment: [illegible]

Completion Method: [illegible]

Plugging Record: [illegible]

VI. OPERATING CHARACTERISTICS

Injection Rates: [illegible]

Injection Pressure: [illegible]

Operating History: [illegible]

VII. MONITORING

Monitoring Devices and Data: [illegible]

Sampling Frequency and Water Quality Parameters Measured: [illegible]

Contingency Plan for Well Failure During Operation: [illegible]

Construction Requirements: [illegible]

Monitoring Requirements: [illegible]

Restrictions on Operation Procedures: [illegible]

MISCELLANEOUS

[illegible]

OPERATING COMPANY: [illegible]
ADDRESS [illegible]

OPERATIONAL STATUS: [illegible] REGION NO.: [illegible]
PERMIT STATUS: [illegible] WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible] Entry Date of Data: [illegible]
[illegible] Elevation: [illegible]

II. GENERAL WELL DATA

Type of Waste Injected: [illegible]
[illegible]
Date Injection Ceased: [illegible]
[illegible]

III. GEOLOGIC INFORMATION

Geological Description of Rock Units Penetrated by Well:

Name	Age	Depth	Thickness	Lithology
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Description of Injection Unit:

	Injection Unit	Confining
[illegible]	[illegible]	[illegible]

Hydrogeology of Fresh Water Aquifers in Vicinity:

Name	Depth	Thickness	Lithology	Fluid Character
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Mineral Resources in Area: [illegible]

Location of other wells in the Affected Area: [illegible]

IV. WASTE CHARACTERISTICS

Chemical Description: [illegible]

Reaction with Surface Equipment: [illegible]

Degradability Level and Rate: [illegible]

Biological Level Before and After Injection (No.): [illegible]

Pre-injection Waste Treatment: [illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

	Casing-Tubing Wt. & Grade	Size	Depth
[illegible]	[illegible]	[illegible]	[illegible]

Type and Amount of Cement: [illegible]

Well Head Equipment: [illegible]

Subsurface Equipment: [illegible]

Completion Method: [illegible]

Plugging Record: [illegible]

Holding Tanks and Flow Lines: [illegible]

Filters: [illegible]
Pumps: [illegible]
Other: [illegible]
Total Cost of Construction: [illegible]
Operating Cost: [illegible]

VI. OPERATION CHARACTERISTICS

Injection Rates:

Date	Average	Maximum
[illegible]	[illegible]	[illegible]

Injection Pressure:

Date	Average	Maximum
[illegible]	[illegible]	[illegible]

Operating History and/or Problems: [illegible]

VII. MONITORING

Monitoring Devices and Data: [illegible]

Sampling Frequency and Water Quality Parameters Measured: [illegible]

Frequency of Measuring Water Levels and Hydrostatic Heads: [illegible]

Contingency Plan for Well Failure During Operation: [illegible]

Construction Requirements: [illegible]

Monitoring Requirements: [illegible]

Restrictions on Operation Procedures: [illegible]

REFERENCES

[illegible]

OPERATING COMPANY: [illegible]
ADDRESS: [illegible]

OPERATIONAL STATUS: [illegible] REGION NO.: [illegible]
PERMIT STATUS: [illegible] WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

SIC Classification: [illegible] Entry Date of Data: [illegible]
Latitude and Longitude: [illegible]
Legal Description of Location: [illegible]
County: [illegible] Elevation: [illegible]

II. INDUSTRY AND WELL DATA

Type of Waste Injected: [illegible]

Name, Age, and Depth of Injection Zone: [illegible]
Total Depth: [illegible]
Date Injection Began: [illegible] Date Injection Ceased: [illegible]
Total Volume to Date: [illegible]
Present Rate of Disposal: [illegible]
Status (if not in operation): [illegible]

III. GEOLOGIC INFORMATION

Geological Description of Rock Units Penetrated by Well:

Name	Age	Depth	Thickness	Lithology
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Description of Injection Unit:

	Injection Unit	Caprock
Name:	[illegible]	[illegible]
Depth:	[illegible]	[illegible]
Formation Fluid Press.:	[illegible]	[illegible]
Bottom Hole Temp.:	[illegible]	[illegible]
Fracturing Press.:	[illegible]	[illegible]
Porosity:	[illegible]	[illegible]
Permeability:	[illegible]	[illegible]
Reservoir Temp.:	[illegible]	[illegible]

Chemical Characteristics of Formation Fluid: [illegible]

Hydrogeology of Fresh Water Aquifers in Vicinity:

Name	Depth	Thickness	Lithology	Fluid Character
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Mineral Resources in Area: [illegible]

Location of other wells in the Affected Area: [illegible]

IV. WASTE CHARACTERISTICS

Chemical Description: [illegible]

Radioactivity: [illegible]
Conc. Suspended Solids, mg/l: [illegible] Conc. Dissolved Solids, mg/l: [illegible]
Temperature: [illegible] Specific Gravity: [illegible] pH: [illegible]
Toxicity: [illegible]

Reaction with Surface Equipment: [illegible]

Degradability Level and Rate: [illegible]

Biological Level Before and After Injection (Opt.): [illegible]

Pre-Injection Waste Treatment: [illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

	Hole Size	Casing-Tubing Wt. & Grade	Size	Depth
Surface:	[illegible]	[illegible]	[illegible]	[illegible]
Intermediate:	[illegible]	[illegible]	[illegible]	[illegible]
Other:	[illegible]	[illegible]	[illegible]	[illegible]
Injection:	[illegible]	[illegible]	[illegible]	[illegible]
Liner:	[illegible]	[illegible]	[illegible]	[illegible]

Type and Amount of Cement: [illegible]

Well Head Equipment: [illegible]

Subsurface Equipment: [illegible]

Completion Method: [illegible]

Plugging Record: [illegible]

Holding Tanks and Flow Lines: [illegible]

Filters: [illegible]
Pumps: [illegible]
Other: [illegible]
Total Cost of Construction: [illegible]
Operating Cost: [illegible]

VI. OPERATING CHARACTERISTICS

Injection Rates:

Date	Average	Maximum
[illegible]	[illegible]	[illegible]

Injection Pressure:

Date	Average	Maximum
[illegible]	[illegible]	[illegible]

Operating History and/or Problems: [illegible]

VII. MONITORING

Monitoring Devices and Data: [illegible]

Sampling Frequency and Water Quality Parameters Measured: [illegible]

Frequency of Measuring Water Levels and Hydrostatic Heads: [illegible]

Contingency Plan for Well Failure During Operation: [illegible]

Construction Requirements: [illegible]

Monitoring Requirements: [illegible]

Restrictions on Operation Procedures: [illegible]

MISCELLANEOUS

[illegible]

OPERATING COMPANY:
ADDRESS:

OPERATIONAL STATUS:
PERMIT STATUS:
REGION NO.:
WELL CODE:

I. GENERAL IDENTIFICATION DATA

Entry Date of Data:

II. GENERAL WELL DATA

Type of Waste Injected:

Name, Age, and Depth of Injection Zone:

III. GEOLOGIC INFORMATION

Geological Description of Rock Units Penetrated by Well:

Name	Age	Depth	Thickness	Lithology

Description of Injection Unit:

	Injection Unit	Caprock

Chemical Characteristics of Formation Fluid:

Hydrogeology of Fresh Water Aquifers in Vicinity:

Name	Depth	Thickness	Lithology	Fluid Character

Mineral Resources in Area:

Location of other wells in the Affected Area:

IV. WASTE CHARACTERISTICS

Chemical Description:

Reaction with Surface Equipment:

Degradability Level and Rate:

Biological Level Before and After Injection (Bio?):

Pre-Injection Waste Treatment:

V. WELL DESIGN AND SURFACE EQUIPMENT

	Hole Size	Casing/Tubing Wt. & Grade	Size	Depth
Surface				
Intermediate				
Other				
Injection				
Liner				

Type and Amount of Cement:

Well Head Equipment:

Subsurface Equipment:

Completion Method:

Plugging Record:

Holding Tanks and Flow Lines:

Total Cost of Construction:

VI. OPERATING CHARACTERISTICS

Injection Rates:

Date	Average	Maximum

Injection Pressure:

Date	Average	Maximum

Operating History and/or Problems:

VII. MONITORING

Monitoring Devices and Data:

Sampling Frequency and Water Quality Parameters Measured:

Frequency of Reporting Data:

Contingency Plan for Well Failure During Operation:

Plugging and Abandonment:

Monitoring Requirements:

Restrictions on Operation:

OPERATING COMPANY: [illegible]
ADDRESS: [illegible]

OPERATIONAL STATUS: [illegible] REGION NO.: [illegible]
PERMIT STATUS: [illegible] WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

[illegible]

III. GEOLOGIC INFORMATION

[illegible]

IV. WASTE CHARACTERISTICS

[illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

[illegible]

VI. OPERATING CHARACTERISTICS

[illegible]

VII. MONITORING

[illegible]

Miscellaneous

[illegible]

OPERATING COMPANY: [illegible]
ADDRESS [illegible]

OPERATIONAL STATUS: [illegible] REGION NO.: [illegible]
PERMIT STATUS: [illegible] WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible] Entry Date of Data: [illegible]
[illegible]
County: [illegible] State: [illegible] Elevation: [illegible]

II. GENERAL WELL DATA

Type of Waste Injected: [illegible]

Name, Age, and Depth of Injection Zone: [illegible]

[illegible]

III. GEOLOGIC INFORMATION

Geological Description of Rock Units Penetrated by Well:

Name	Age	Depth	Thickness	Lithology
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Description of Injection Unit:

[illegible]

Name	Depth	Thickness	Lithology	Fluid Character
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Mineral Resources in Area: [illegible]

Location of Other Wells in the Affected Area: [illegible]

IV. WASTE CHARACTERISTICS

Chemical Description: [illegible]

[illegible]

Reaction with Surface Equipment: [illegible]

[illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

[illegible]

Type and Amount of Cement: [illegible]

Well Head Equipment: [illegible]

Subsurface Equipment: [illegible]

Completion Method: [illegible]

Plugging Record: [illegible]

Holding Tanks and Flow Lines: [illegible]

[illegible]

Total Cost of Construction: [illegible]

VI. OPERATION CHARACTERISTICS

Injection Rates: [illegible]

Injection Pressure: [illegible]

[illegible]

VII. MONITORING

Monitoring Devices and Data: [illegible]

Sampling Frequency and Water Quality Parameters Measured: [illegible]

Frequency of Measuring Water Levels and Hydrostatic Heads: [illegible]

Contingency Plan for Well Failure During Operation: [illegible]

Construction Requirements: [illegible]

Monitoring Requirements: [illegible]

Restrictions on Operating Procedures: [illegible]

MISCELLANEOUS

[illegible]

OPERATING COMPANY: [illegible]
ADDRESS: [illegible]

OPERATIONAL STATUS: [illegible] REGION NO.: [illegible]
PERMIT STATUS: [illegible] WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

Type of Waste Injected: [illegible]

Name, Age, and Depth of Injection Zone: [illegible]

III. GEOLOGIC INFORMATION

Geological Description of Rock Units Penetrated by Well:

Name	Age	Depth	Thickness	Lithology
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Description of Injection Unit:

[illegible]

Geohydrology of Fresh Water Aquifers in Vicinity:

Name	Depth	Thickness	Lithology	Fluid Character

Mineral Resources in Area: Oil and Gas

Location of other wells in the Affected Area: [illegible]

IV. WASTE CHARACTERISTICS

Chemical Description: [illegible]

Reaction with Surface Equipment:

Degradability Level and Rate:

Biological Level Before and After Injection (Bpl 1):

Pre-injection Waste Treatment: None

V. WELL DESIGN AND SURFACE EQUIPMENT

[illegible]

Type and Amount of Cement: [illegible]

Well Head Equipment:

Subsurface Equipment: [illegible]

Completion Method: [illegible]

Plugging Record:

Holding Tanks and Flow Lines:

Filters:
Pumps:
Other:
Total Cost of Construction: [illegible]
Operating Cost: [illegible]

VI. OPERATION CHARACTERISTICS

Injection Rates: [illegible]

Injection Pressure: [illegible]

Operating History and/or Problems:

VII. MONITORING

Monitoring Devices and Data: [illegible]

Sampling Frequency and Water Quality Parameters Measured: [illegible]

Frequency of Measuring Water Levels and Hydrostatic Heads:

Contingency Plan for Well Failure During Operation:

Construction Requirements:

Monitoring Requirements:

Restrictions on Operator Procedures: [illegible]

MISCELLANEOUS

[illegible] plant operates 24 hours a day, 7 days a week.

OPERATING COMPANY:

ADDRESS:

OPERATIONAL STATUS:

PERMIT STATUS:

REGION NO.:

WELL CODE:

I. GENERAL IDENTIFICATION DATA

II. GENERAL WELL DATA

III. GEOLOGIC INFORMATION

IV. WASTE CHARACTERISTICS

V. WELL DESIGN AND SURFACE EQUIPMENT

VI. OPERATING CHARACTERISTICS

VII. MONITORING

MISCELLANEOUS

OPERATING COMPANY: [illegible]
ADDRESS [illegible]

OPERATIONAL STATUS: [illegible] REGION NO.: [illegible]
PERMIT STATUS: [illegible] WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

[illegible]

III. GEOLOGIC INFORMATION

Geological Description of Rock Units Penetrated by Well:

[illegible]

IV. WASTE CHARACTERISTICS

[illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

[illegible]

VI. OPERATING CHARACTERISTICS

[illegible]

VII. MONITORING

[illegible]

[illegible]

I. GENERAL IDENTIFICATION DATA

II. GENERAL WELL DATA

III. GEOLOGICAL INFORMATION

IV. WASTE CHARACTERISTICS

V. WELL DESIGN AND SURFACE EQUIPMENT

VI. OPERATION CHARACTERISTICS

VII. MONITORING

VIII. MISCELLANEOUS

OPERATING COMPANY:
ADDRESS:

OPERATIONAL STATUS:
PERMIT STATUS:
REGION NO.:
WELL CODE:

I. GENERAL IDENTIFICATION DATA

II. GENERAL WELL DATA

III. GEOLOGIC INFORMATION

Geological Description of Rock Units Penetrated by Well:

Name	Age	Depth	Thickness	Lithology
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Description of Injection Unit:

Mineral Resources in Area:

Location of Other Wells in the Affected Area:

IV. WASTE CHARACTERISTICS

Chemical Description:

Biological Level Before and After Injection Unit:

Pre-Injection Waste Treatment:

V. WELL DESIGN AND SURFACE EQUIPMENT

Type and Amount of Cement:

Well Head Equipment:

Subsurface Equipment:

Completion Method:

Plugging Record:

Holding Tanks and Flow Lines:

VI. OPERATING CHARACTERISTICS

Injection Rates:

Injection Pressure:

Operating History and/or Problems:

VII. MONITORING

Monitoring Devices and Data:

Sampling Frequency and Water Quality Parameters Measured:

Frequency of Measuring Water Levels and Hydrostatic Heads:

Contingency Plan for Well Failure During Operation:

Monitoring Requirements:

Restrictions on Operating Procedures:

MISCELLANEOUS

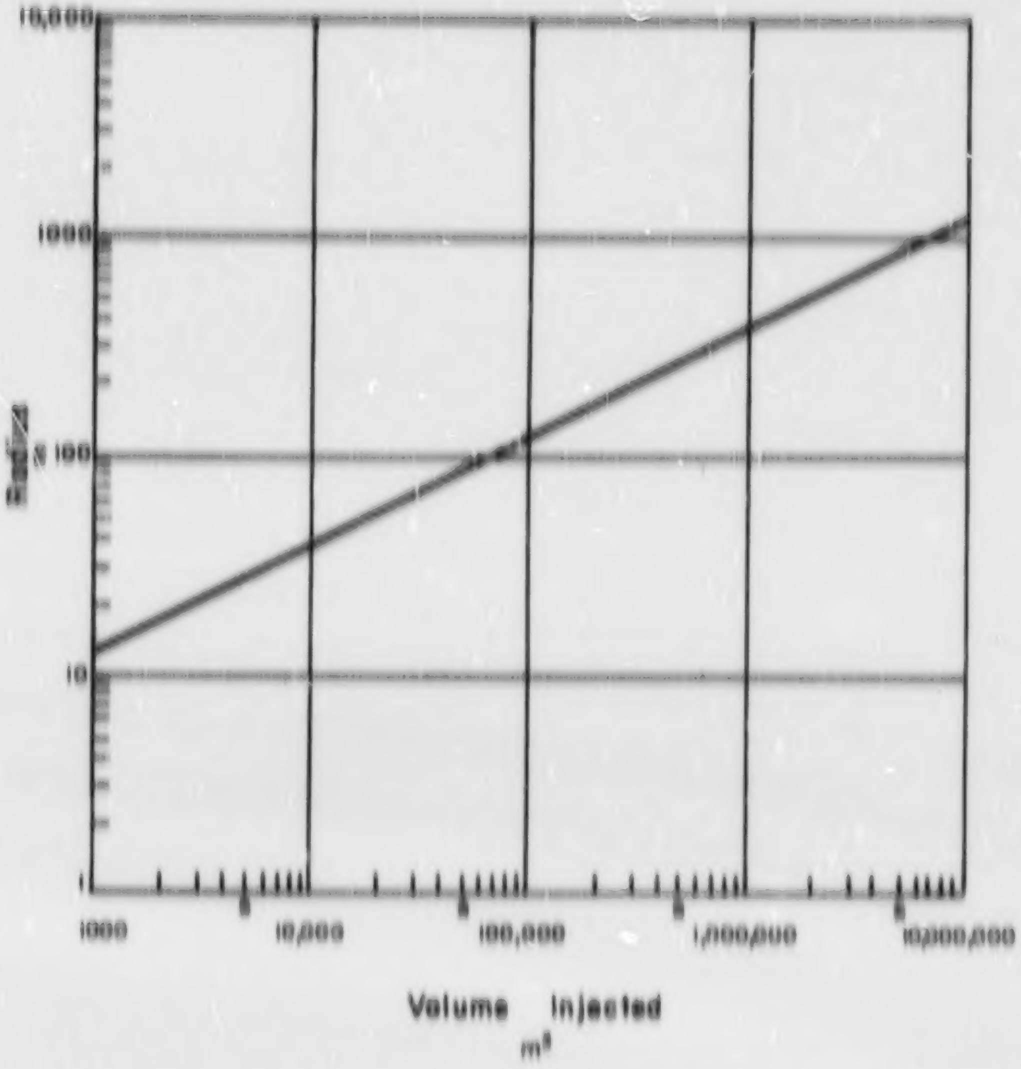


Figure 101 Radius of invasion for well OK-6

OPERATING COMPANY: [illegible]
ADDRESS [illegible]

OPERATIONAL STATUS: [illegible]
PERMIT STATUS: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

Type of Waste Injected: [illegible]

Name, Age, and Depth of Injection Zone: [illegible]

III. GEOLOGIC INFORMATION

Geological Description of Rock Units Penetrated by Well:

Name	Age	Depth	Thickness	Lithology
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Description of Injection Unit:

[illegible]

Name	Depth	Thickness	Lithology	Fluid Character
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Mineral Resources in Area: [illegible]

Location of other wells in the Affected Area: [illegible]

IV. WASTE CHARACTERISTICS

Chemical Description: [illegible]

[illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

[illegible]

Well Head Equipment: [illegible]

Subsurface Equipment: [illegible]

Completion Method: [illegible]

Plugging Record: [illegible]

Holding Tanks and Flow Lines: [illegible]

VI. OPERATION CHARACTERISTICS

Injection Rates: [illegible]

Injection Pressure: [illegible]

Operating History and/or Problems: [illegible]

VII. MONITORING

Monitoring Devices and Data: [illegible]

Sampling Frequency and Water Quality Parameters Measured: [illegible]

Frequency of Measuring Water Levels and Hydrostatic Head: [illegible]

Contingency Plan for Well Failure During Operation: [illegible]

Construction Requirements: [illegible]

Monitoring Requirements: [illegible]

Restrictions on Operating Procedures: [illegible]

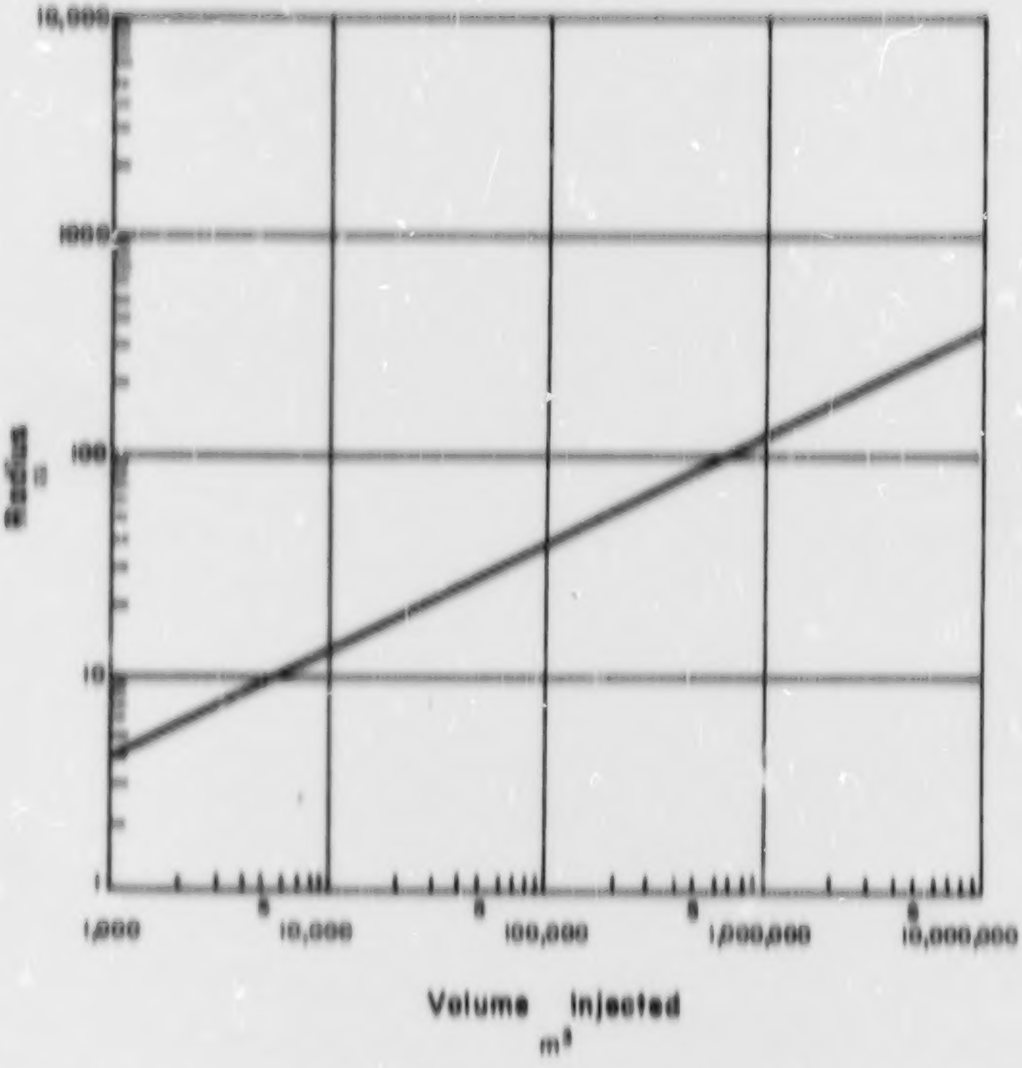


Figure 102 Radius of invasion for well OK-7

OPERATING COMPANY:

ADDRESS

OPERATIONAL STATUS:

PERMIT STATUS:

REGION NO.:

WELL CODE:

I. GENERAL IDENTIFICATION DATA

II. GENERAL WELL DATA

Type of Waste Injected:

III. GEOLOGIC INFORMATION

Geological Description of Rock Units Penetrated by Well:

Name	Age	Depth	Thickness	Lithology
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Description of Injection Unit:

Characteristics of Fresh Water Aquifers in Vicinity:

Name	Depth	Thickness	Lithology	Fluid Character
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Mineral Resources in Area:

Location of Other Wells in the Affected Area:

IV. WASTE CHARACTERISTICS

Chemical Description:

Compatibility with Surface Equipment:

Biological Level Before and After Injection:

Pre-Injection Waste Treatment:

V. WELL DESIGN AND SURFACE EQUIPMENT

Type and Amount of Cement:

Well Head Equipment:

Subsurface Equipment:

Completion Method:

Plugging Record:

Holding Tanks and Flow Lines:

Total Cost of Construction:

VI. OPERATING CHARACTERISTICS

Injection Rates:

Date | Average | Maximum

Injection Pressure:

Date | Average | Maximum

Operating History and/or Problems:

VII. MONITORING

Monitoring Devices and Data:

Sampling Frequency and Water Quality Parameters Measured:

Frequency of Measuring Water Levels and Hydrostatic Heads:

Contingency Plan for Well Failure During Operation:

Construction Requirements:

Monitoring Requirements:

Modifications or Operating Procedures:

[redacted]

[redacted]

[redacted]

[redacted]

OPERATING COMPANY:
ADDRESS

OPERATIONAL STATUS:
PERMIT STATUS:
REGION NO.:
WELL CODE:

I. GENERAL IDENTIFICATION DATA

II. GENERAL WELL DATA

III. GEOLOGIC INFORMATION

IV. WASTE CHARACTERISTICS

V. WELL DESIGN AND SURFACE EQUIPMENT

VI. OPERATION CHARACTERISTICS

VII. MONITORING

OPERATING COMPANY: [illegible]
ADDRESS: [illegible]

OPERATIONAL STATUS: [illegible] REGION NO.: [illegible]
PERMIT STATUS: [illegible] WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

Type of Waste Injected: [illegible]

Name, Age, and Depth of Injection Zone: [illegible]

[illegible]

III. GEOLOGIC INFORMATION

Geological Description of Rock Units Penetrated by Well:

Name	Age	Depth	Thickness	Lithology
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Description of Injection Unit:

[illegible]

Name	Depth	Thickness	Lithology	Fluid Character
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Mineral Resources in Area:

Location of other wells in the affected area:

IV. WASTE CHARACTERISTICS

Chemical Description: [illegible]

[illegible]

Reaction with Surface Equipment:

Degradability Level and Rate:

Biological Level Before and After Injection Well:

Pre-injection Waste Treatment: [illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

[illegible]

Type and Amount of Cement: [illegible]

Well Head Equipment: [illegible]

Subsurface Equipment: [illegible]

Completion Method: [illegible]

Plugging Record:

Holding Ponds and Flow Lines: [illegible]

[illegible]

Total Cost of Construction:
Operating Cost:

VI. OPERATING CHARACTERISTICS

Injection Rates: (gal/min) [illegible]

Injection Pressures (psi) [illegible]

Operating History and/or Problems:

VII. MONITORING

Monitoring Devices and Data: [illegible]

Sampling Frequency and Water Quality Parameters Measured:

Frequency of Measuring Water Levels and Hydrostatic Heads:

Contingency Plan for Well Failure During Operation: [illegible]

Construction Requirements:

Monitoring Requirements: [illegible]

Restrictions on Operation Procedures: [illegible]

MISCELLANEOUS

[illegible]

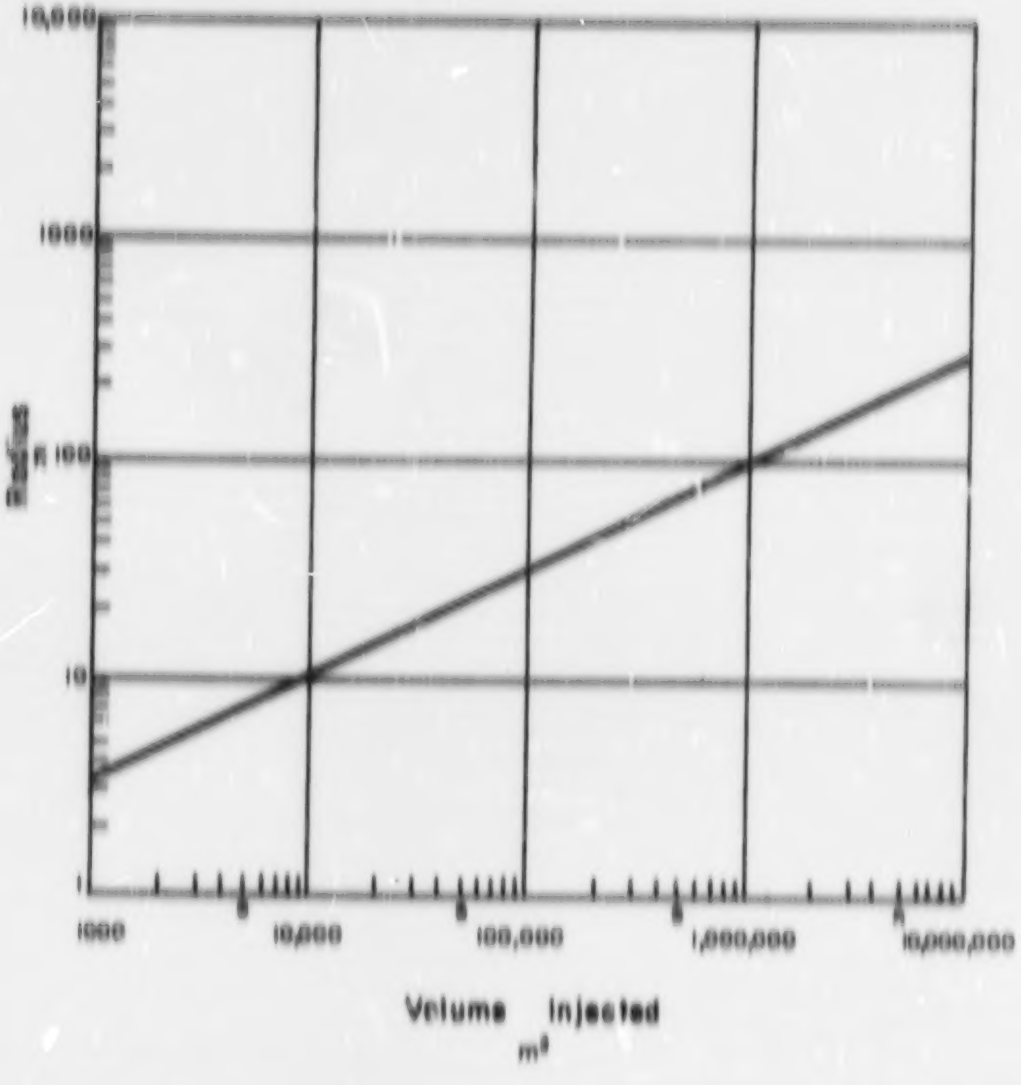


Figure 103 Radius of invasion for well OK-13

OPERATING COMPANY: [illegible]
ADDRESS: [illegible]

OPERATIONAL STATUS: [illegible] REGION NO.: [illegible]
PERMIT STATUS: [illegible] WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

Type of Waste Injected: [illegible]

Name, Age, and Depth of Injection Zone: [illegible]

[illegible]

III. GEOLOGIC INFORMATION

Geological Description of Rock Units Penetrated by Well:

Name	Age	Depth	Thickness	Lithology
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Description of Injection Unit:

[illegible]

Hydrology of Fresh Water Aquifers in Vicinity:

Name	Depth	Thickness	Lithology	Fluid Character
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Mineral Resources in Area: [illegible]

Location of other wells in the Affected Area: [illegible]

IV. WASTE CHARACTERISTICS

Chemical Description: [illegible]

[illegible]

Reaction with Surface Equipment: [illegible]

Degradability Level and Rate: [illegible]

Biological Level Before and After Injection: [illegible]

Pre-injection Waste Treatment: [illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

[illegible]

Type and Amount of Cement: [illegible]

Well Head Equipment: [illegible]

Subsurface Equipment: [illegible]

Completion Method: [illegible]

Plugging Record: [illegible]

Holding Tanks and Flow Lines: [illegible]

[illegible]

VI. OPERATION CHARACTERISTICS

Injection Rates: [illegible]

Injection Pressure: [illegible]

Operating History and/or Problems: [illegible]

VII. MONITORING

Monitoring Devices and Data: [illegible]

Sampling Frequency and Water Quality Parameters Measured: [illegible]

Frequency of Measuring Water Levels and Hydrostatic Heads: [illegible]

Contingency Plan for Well Failure During Operation: [illegible]

Construction Requirements: [illegible]

Monitoring Requirements: [illegible]

Restrictions on Operation Procedures: [illegible]

MISCELLANEOUS

[illegible]

OPERATING COMPANY: [illegible]
ADDRESS: [illegible]

OPERATIONAL STATUS: [illegible]
PERMIT STATUS: [illegible]
REGION NO.: [illegible]
WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

Type of Waste Injected: [illegible]

[illegible]

III. GEOLOGIC INFORMATION

Geological Description of Rock Units Penetrated by Well:

Name	Age	Depth	Thickness	Lithology
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Description of Injection Unit: [illegible]

Lithology of Fresh Water Aquifers in Vicinity:

Name	Depth	Thickness	Lithology	Fluid Character
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Mineral Resources in Area: [illegible]

Location of Other Wells in the Affected Area: [illegible]

IV. WASTE CHARACTERISTICS

Physical Description: [illegible]

[illegible]

Reaction with Surface Equipment: [illegible]

Biological Level and Data: [illegible]

Pre-Injection Waste Treatment: [illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

[illegible]

Type and Amount of Cement: [illegible]

Subsurface Equipment: [illegible]

[illegible]

Holding Tanks and Flow Lines: [illegible]

Total Cost of Construction: [illegible]

Operating Cost: [illegible]

VI. OPERATING CHARACTERISTICS

Injection Rates: [illegible]

Injection Pressure: [illegible]

Operating History and/or Problems: [illegible]

VII. SAFEGUARDS

Monitoring Devices and Data: [illegible]

Sampling Frequency and Water Quality Parameters Measured: [illegible]

Frequency of Measuring Water Levels and Hydrostatic Heads: [illegible]

Contingency Plan for Well Failure During Operation: [illegible]

Abandonment Requirements: [illegible]

Monitoring Requirements: [illegible]

Restrictions on Operating Procedures: [illegible]

MISCELLANEOUS

[illegible]

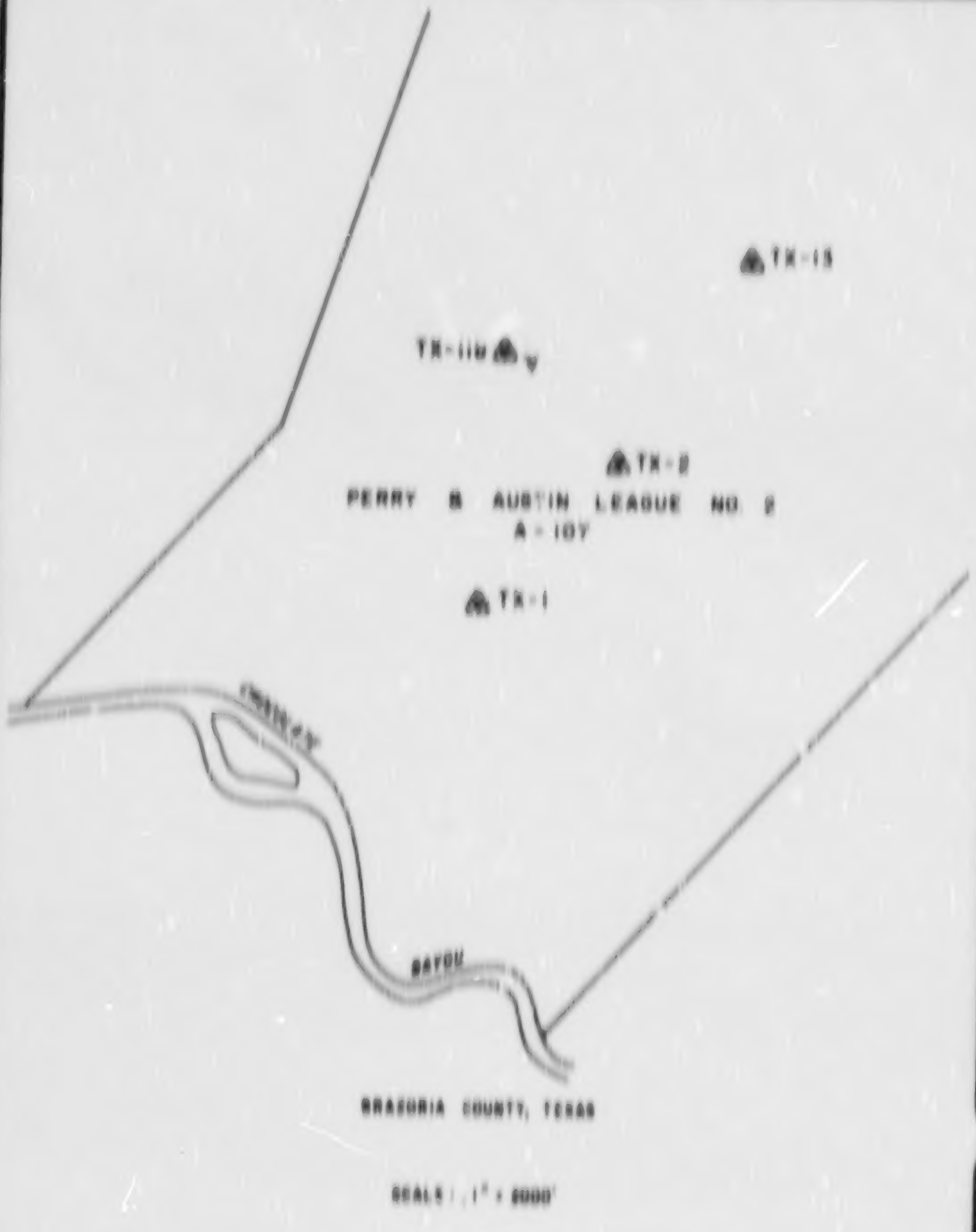


Figure 104 Location map of wells TX-1, 2, 13, 11B

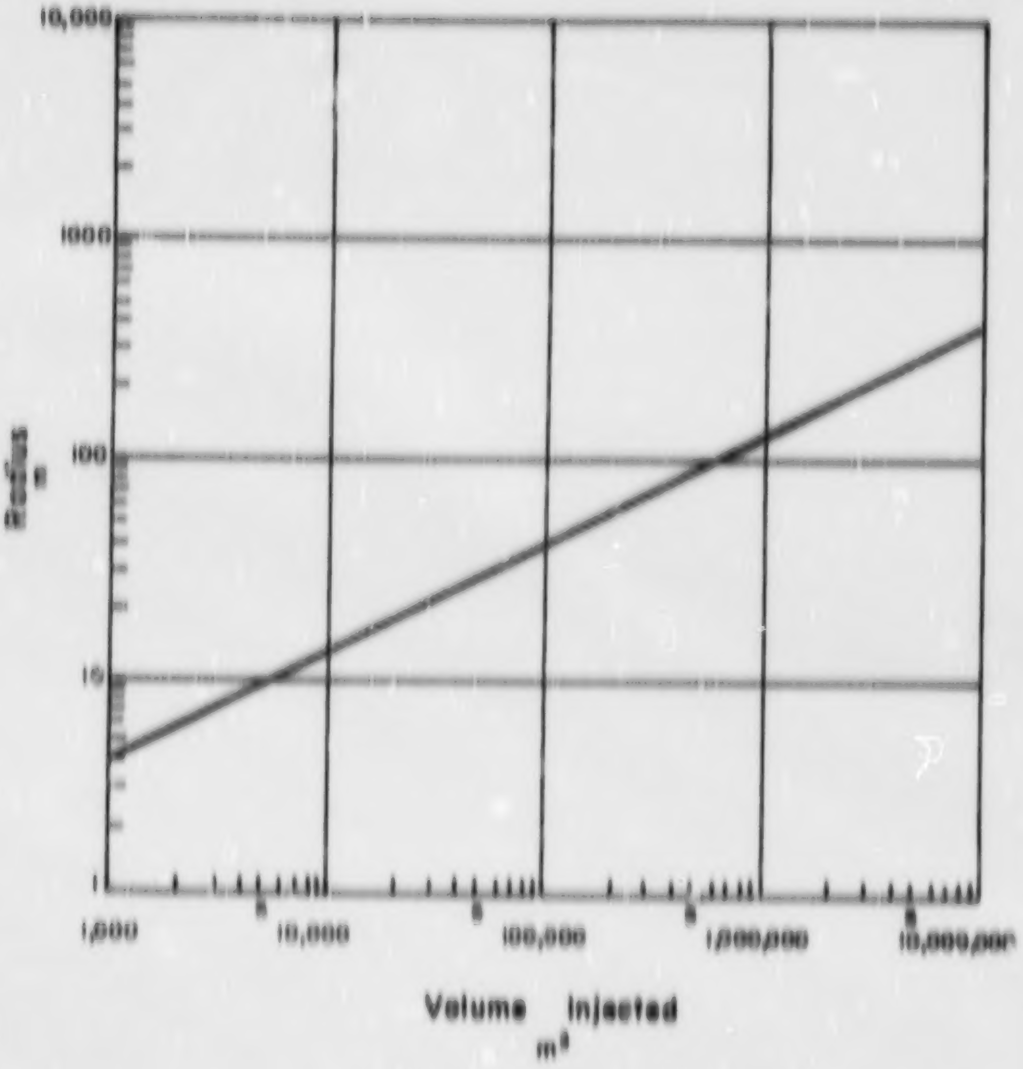


Figure 105 Radius of invasion for well TX-1

[illegible]

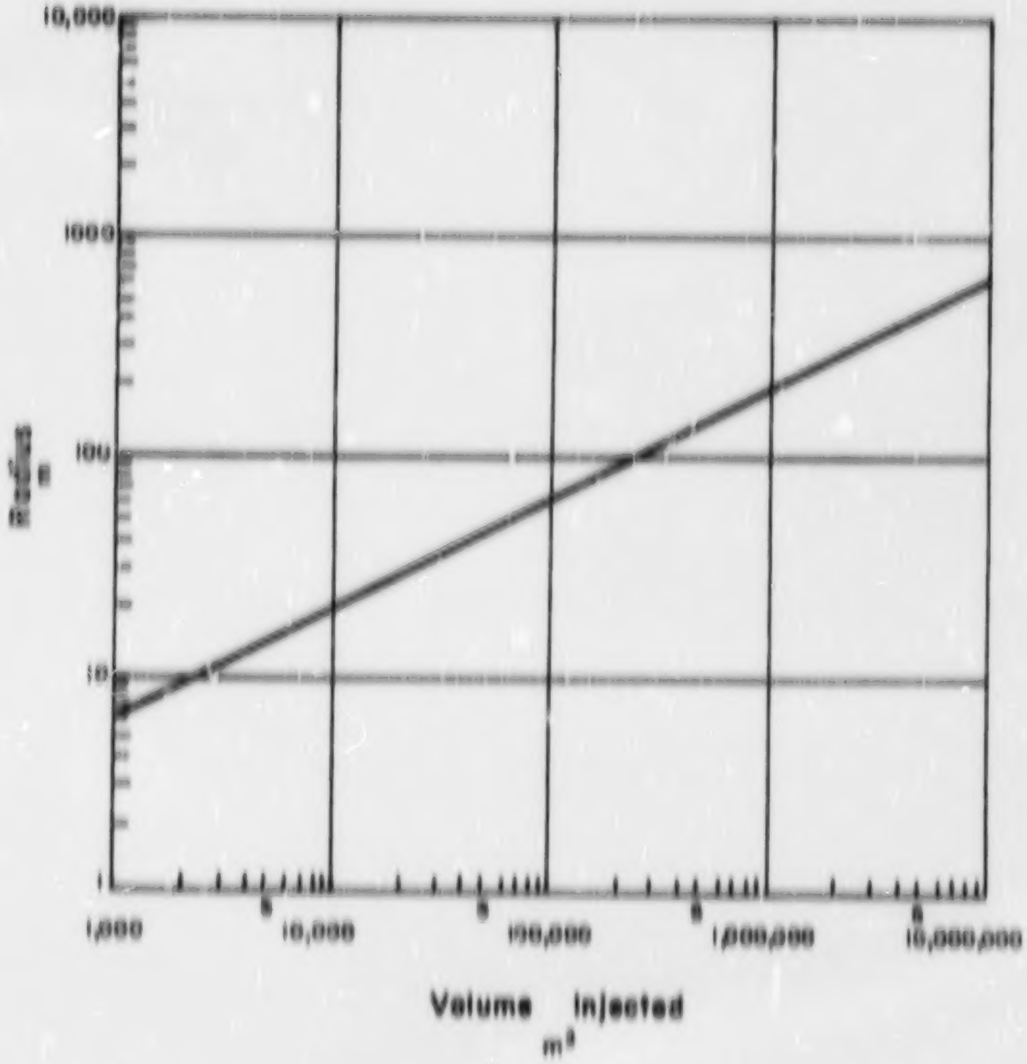


Figure 106 Radius of invasion for well TX-3

[redacted]

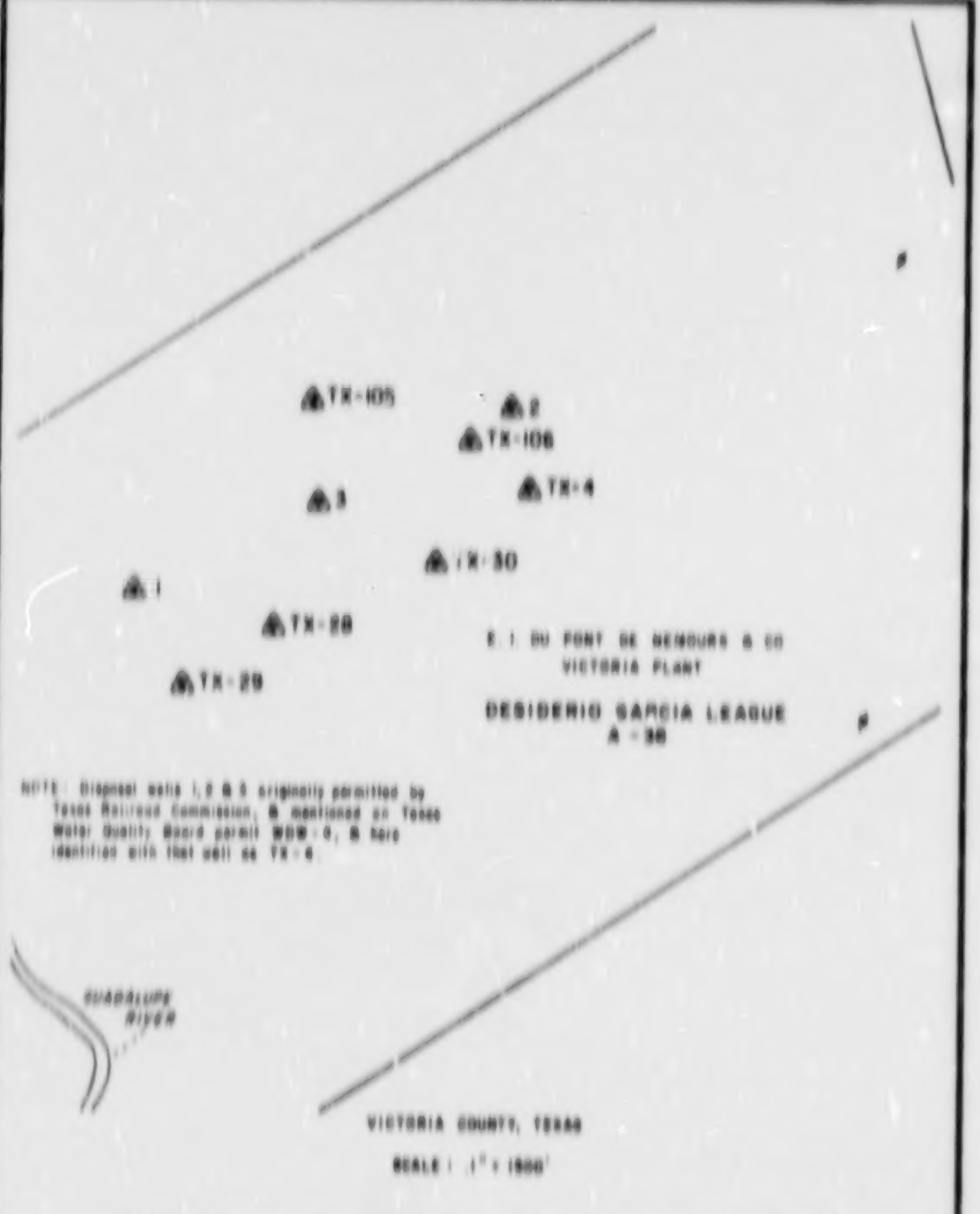


Figure 107 Location map of wells TX-4, 28, 29, 30, 105, 106

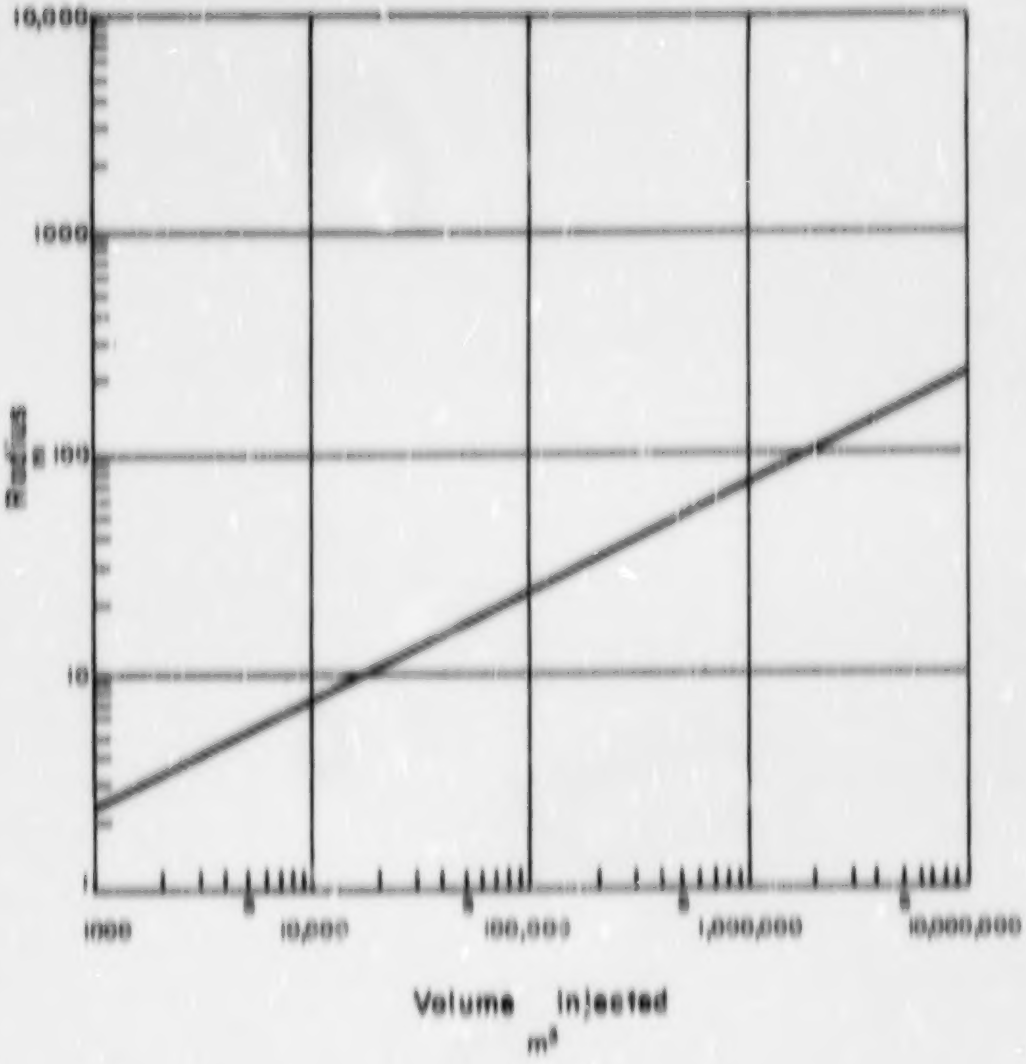


Figure 108 Radius of invasion for well TX-4

OPERATING COMPANY: [illegible]
ADDRESS: [illegible]

OPERATIONAL STATUS: [illegible] REGION NO.: [illegible]
PERMIT STATUS: [illegible] WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

Type of Waste Injected: [illegible]

[illegible]

III. GEOLOGIC INFORMATION

Geological Description of Rock Units Penetrated by Well:

Name	Age	Depth	Thickness	Lithology
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Description of Injection Unit: [illegible]

Mineral Resources in Area: [illegible]

[illegible]

IV. WASTE CHARACTERISTICS

[illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

	Hole Size	Casing/Tubing Wt. & Grade	Size	Depth
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Type and Amount of Cement: [illegible]

Well Head Equipment: [illegible]

Subsurface Equipment: [illegible]

Completion Method: [illegible]

[illegible]

VI. OPERATING CHARACTERISTICS

Injection Rates: [illegible]

Injection Pressure: [illegible]

Operating History and/or Problems: [illegible]

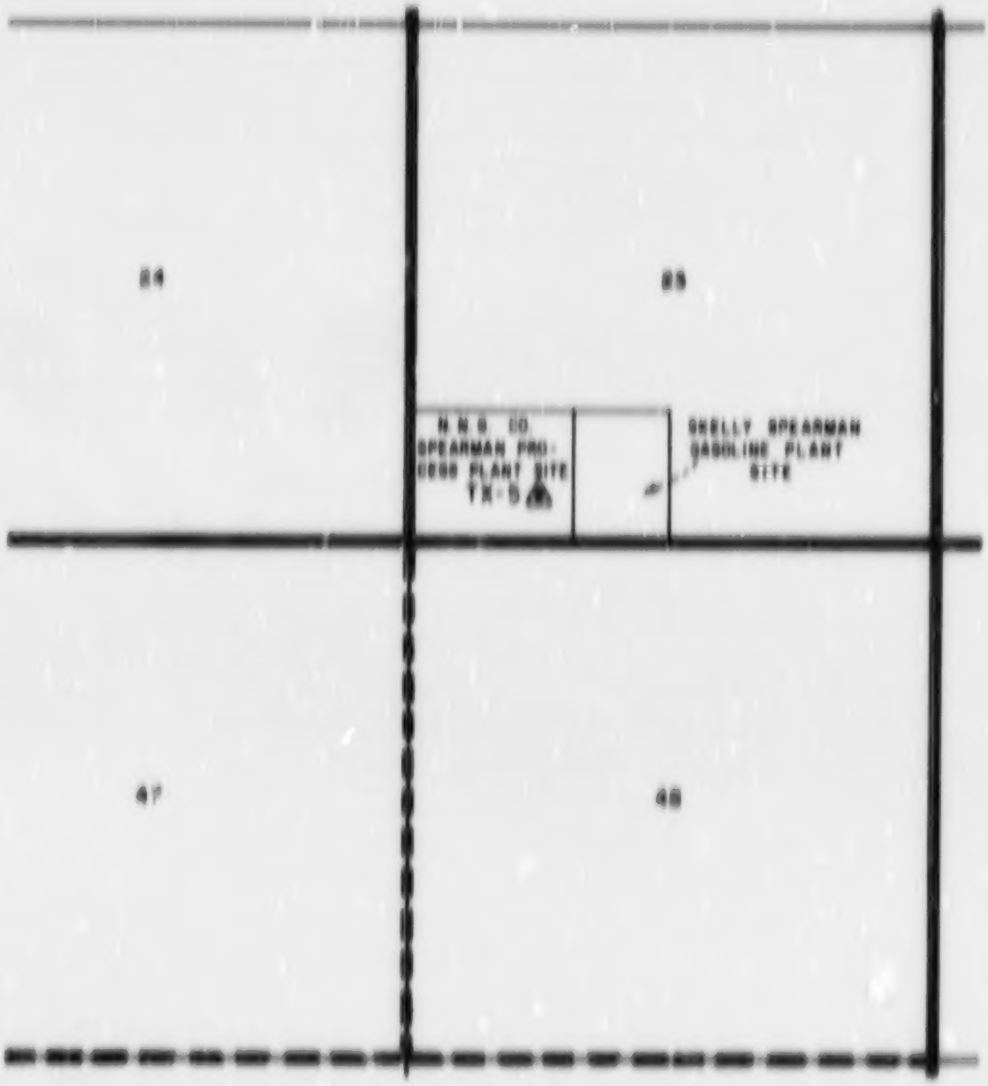
VII. MONITORING

Monitoring Devices and Data: [illegible]

[illegible]

Miscellaneous

[illegible]



OCHILTREE COUNTY, TEXAS

Figure 109 Location map of well TX-5

[illegible]

[illegible]

[illegible]

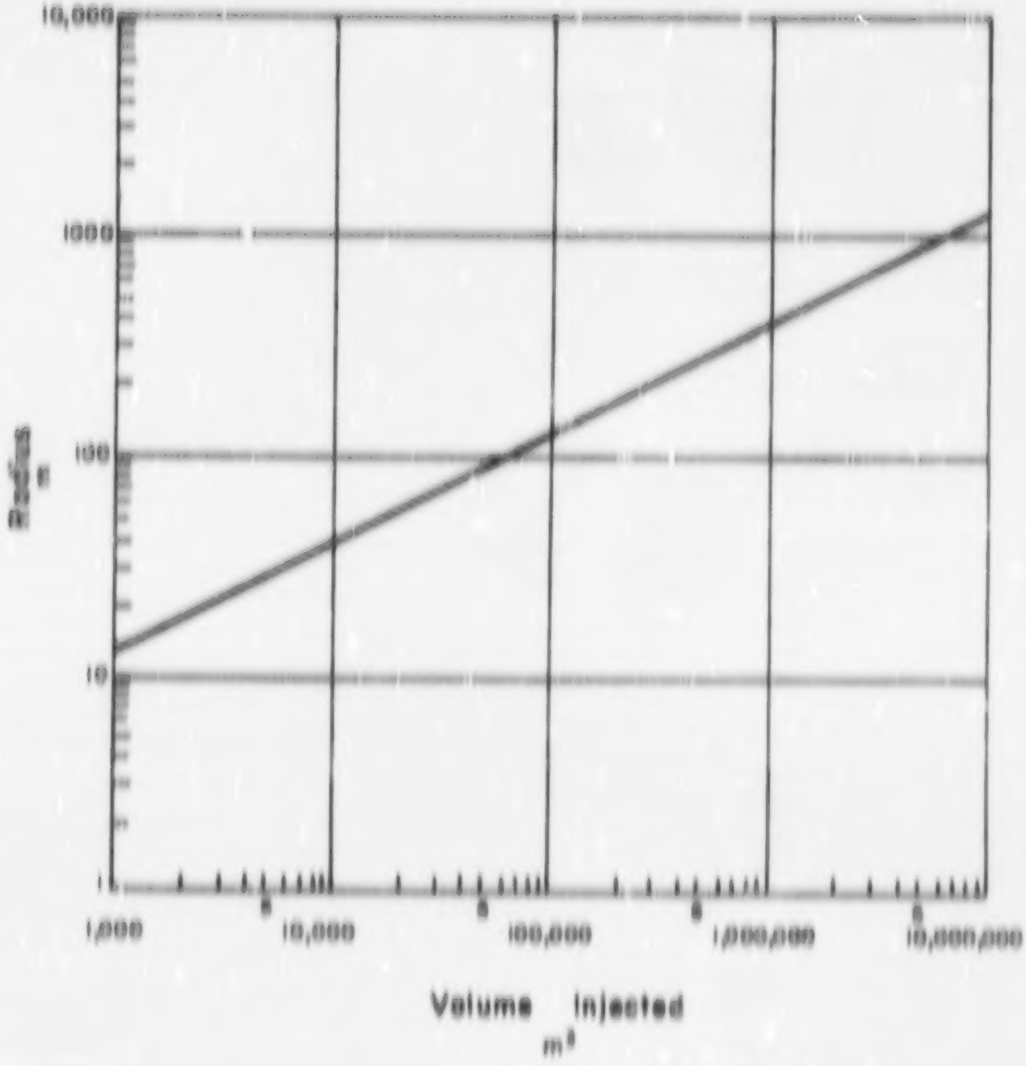


Figure 110 Radius of invasion for well TX-7

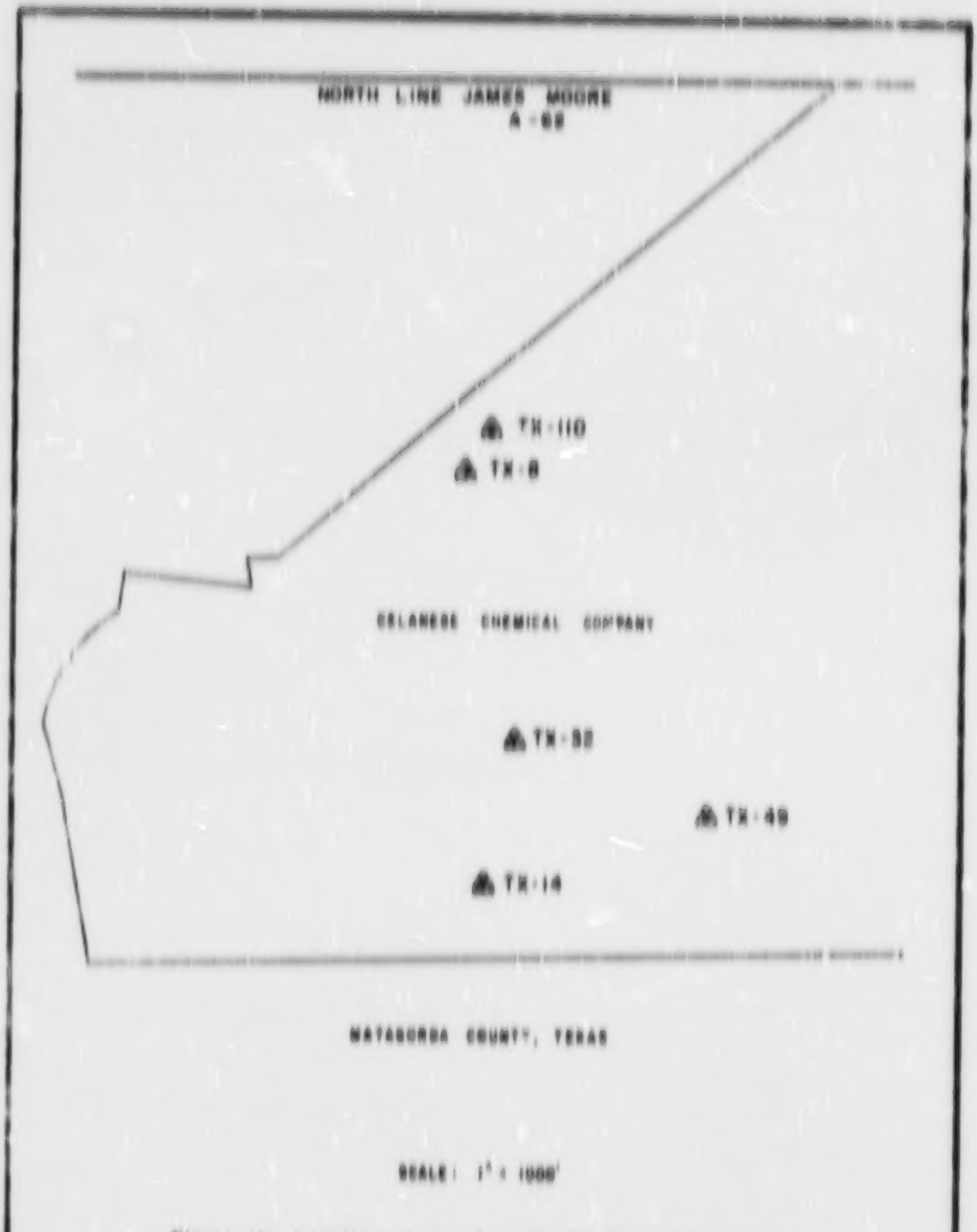


Figure III Location map of wells TX-8, 14, 32, 49, 110

OPERATING COMPANY: [illegible]
ADDRESS: [illegible]

OPERATIONAL STATUS: [illegible] REGION NO.: [illegible]
PERMIT STATUS: [illegible] WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

Type of Waste Injected: [illegible]

Name, Age, and Depth of Injection Zone: [illegible]

[illegible]

III. GEOLOGIC INFORMATION

Geological Description of Rock Units Penetrated by Well:

Name	Age	Depth	Thickness	Lithology
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Description of Injection Unit:

[illegible]

Geohydrology of Fresh Water Aquifers in Vicinity:

Name	Depth	Thickness	Lithology	Fluid Character
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Mineral Resources in Area: [illegible]

Location of other Wells in the Affected Area: [illegible]

IV. WASTE CHARACTERISTICS

Chemical Description: [illegible]

Radioactivity: [illegible]

Reaction with Surface Equipment: [illegible]

Degradability Level and Rate: [illegible]

Biological Level Before and After Injection: [illegible]

Pre-Injection Waste Treatment: [illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

[illegible]

Type and Amount of Cement: [illegible]

Well Head Equipment: [illegible]

Subsurface Equipment: [illegible]

Completion Method: [illegible]

Plugging Record: [illegible]

[illegible]

VI. OPERATING CHARACTERISTICS

Injection Rates: [illegible]

Injection Pressure: [illegible]

[illegible]

VII. MONITORING

Monitoring Devices and Data: [illegible]

Sampling Frequency and Water Quality Parameters Measured: [illegible]

Frequency of Measuring Water Levels and Hydrostatic Heads: [illegible]

Contingency Plan for Well Failure During Operation: [illegible]

[illegible]

Restrictions on Operation Procedure: [illegible]

MISCELLANEOUS

[illegible]

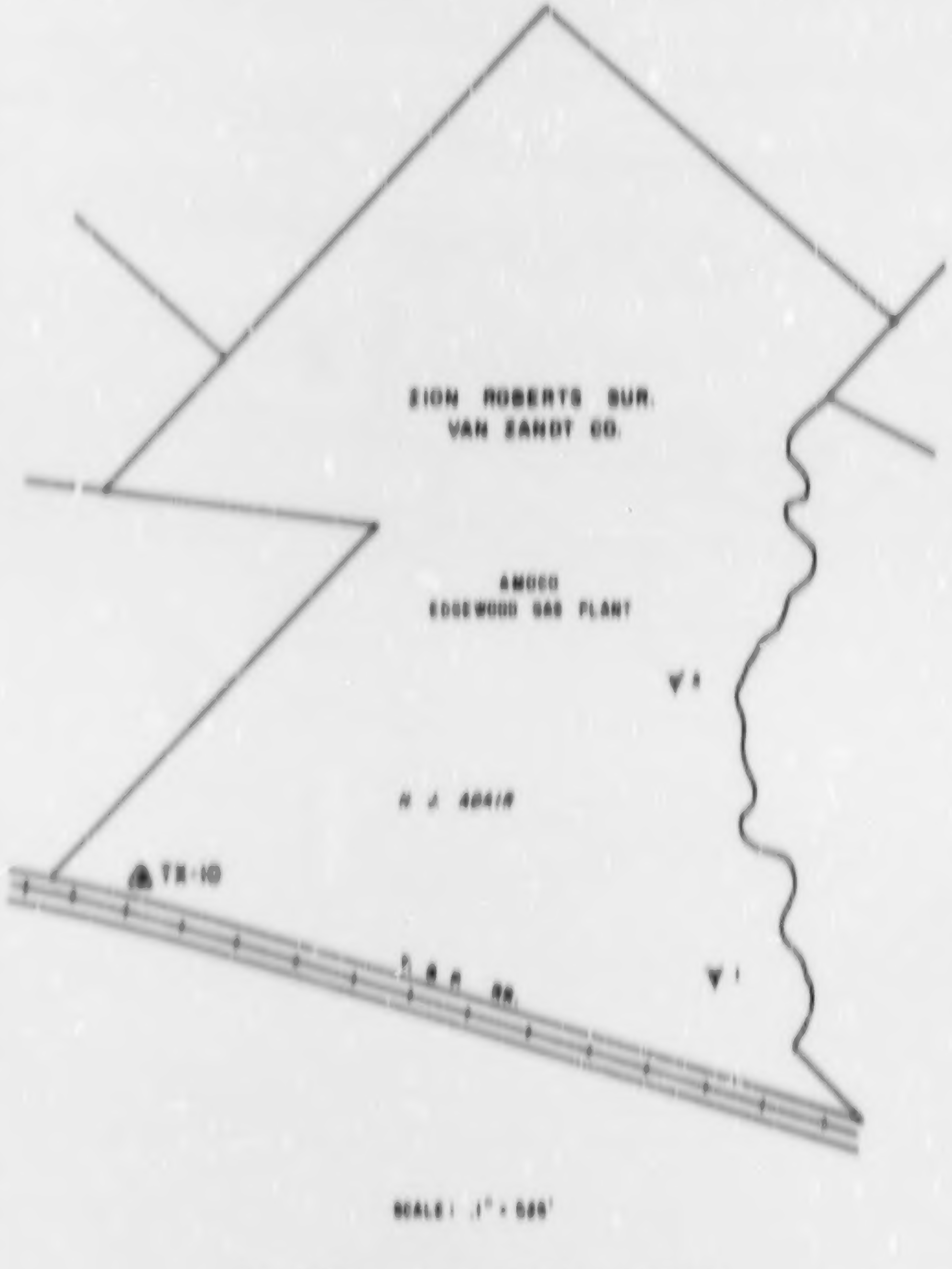


Figure 112 Location map of well TX-10

OPERATING COMPANY:

ADDRESS

OPERATIONAL STATUS:

PERMIT STATUS:

WELL CODE:

I. GENERAL IDENTIFICATION DATA

II. GENERAL WELL DATA

III. GEOLOGIC INFORMATION

Geological Description of Rock Units Penetrated by Well:

Mineral Resources in Area:

Location of other wells in the affected area:

IV. WASTE CHARACTERISTICS

V. WELL DESIGN AND SURFACE EQUIPMENT

Subsurface Equipment:

Plugging Record:

VI. OPERATING CHARACTERISTICS

VII. MONITORING

Sampling Frequency and Water Quality Parameters Measured:

Contingency Plan for Well Failure During Operation:

Monitoring Requirements:

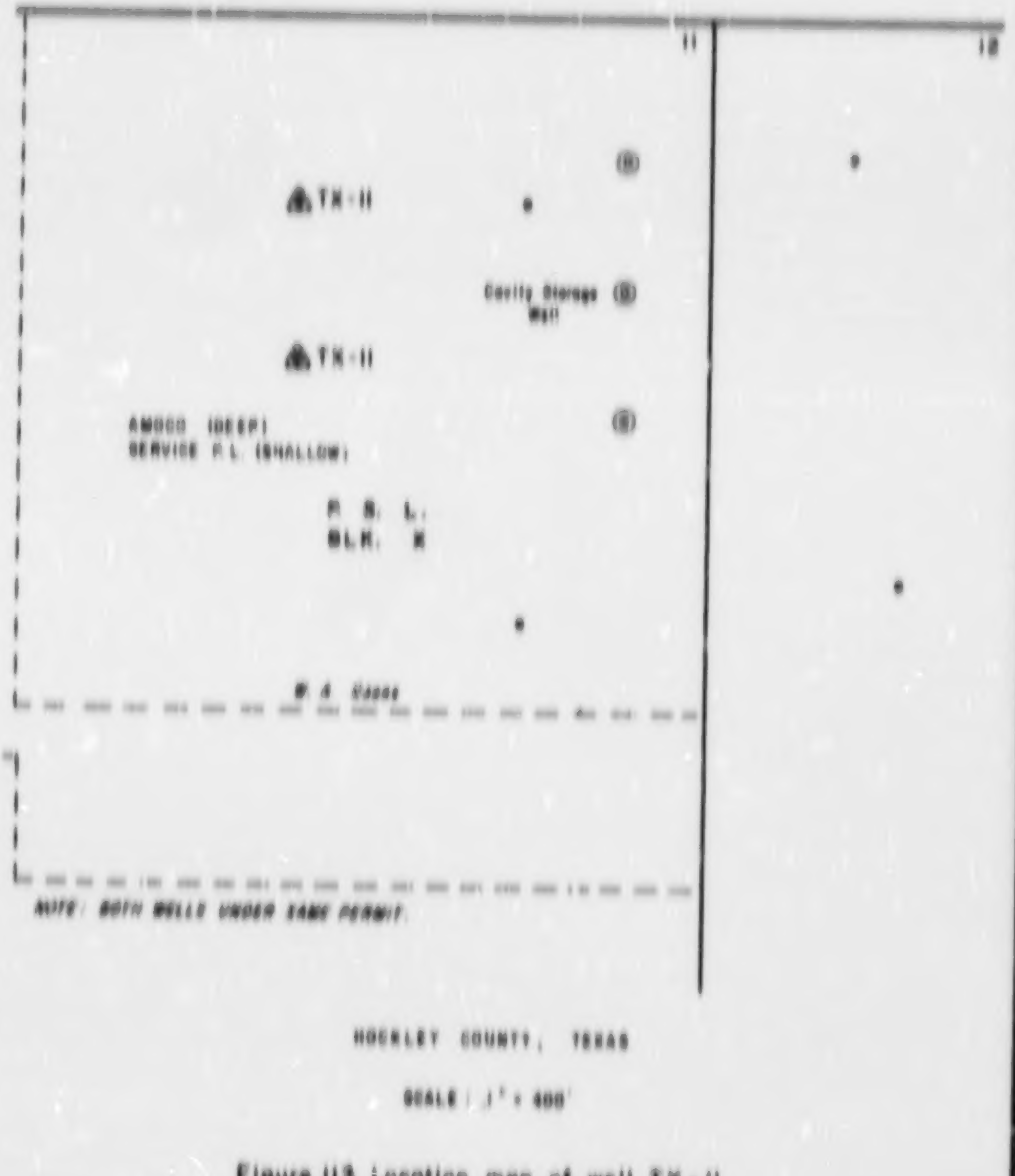


Figure II5 Location map of well TX-II

Figure 114 Location map of wells TX-12, 23, 54, 55, 56, 57, 104

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

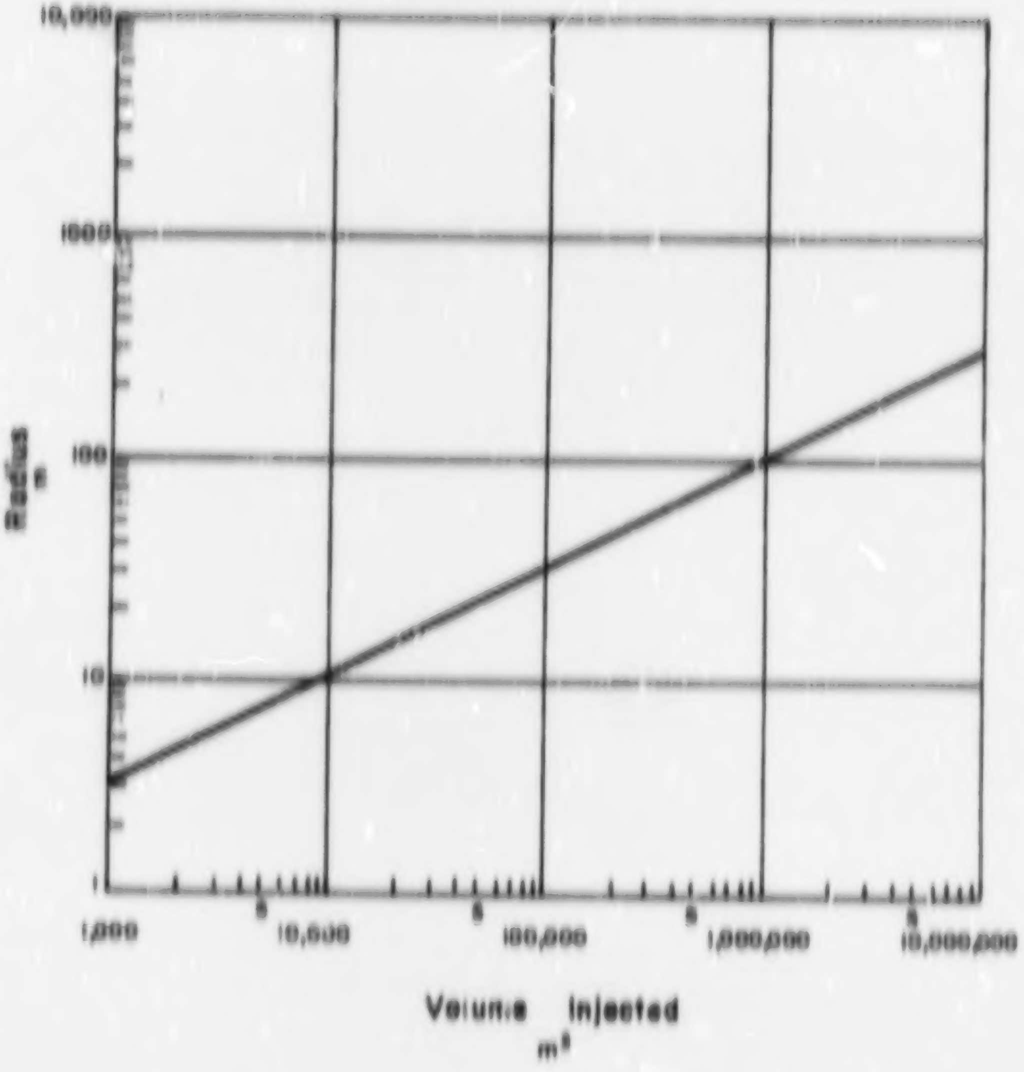


Figure 115 Radius of invasion for well TX-14

OPERATING COMPANY: [illegible]
ADDRESS: [illegible]

OPERATIONAL STATUS: [illegible] REGION NO.: [illegible]
PERMIT STATUS: [illegible] WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

Type of Waste Injected: [illegible]

[illegible]

III. GEOLOGIC INFORMATION

Geological Description of Rock Units Penetrated by Well:

Name	Age	Depth	Thickness	Lithology
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Description of Injection Unit:

	Injection Unit	Confining
Name	[illegible]	[illegible]
Depth	[illegible]	[illegible]
Formation Fluid Press.	[illegible]	[illegible]
Fracture Pressure	[illegible]	[illegible]
Lithology	[illegible]	[illegible]
Porosity	[illegible]	[illegible]
Permeability	[illegible]	[illegible]

Chemical Characteristics of Formation Fluid: [illegible]

Hydrogeology of Fresh Water Aquifers in Vicinity:

Name	Depth	Thickness	Lithology	Fluid Character
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Mineral Resources in Area: [illegible]

Location of other wells in the affected area: [illegible]

IV. WASTE CHARACTERISTICS

[illegible]

Reaction with Surface Equipment: [illegible]

Degradability Level and Rate: [illegible]

Pre-Injection Waste Treatment: [illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

	Hole Size	Casing, Tubing Wt. & Grade	Size	Depth
Surface	[illegible]	[illegible]	[illegible]	[illegible]
Intermediate	[illegible]	[illegible]	[illegible]	[illegible]
Other	[illegible]	[illegible]	[illegible]	[illegible]
Injection	[illegible]	[illegible]	[illegible]	[illegible]
Liner	[illegible]	[illegible]	[illegible]	[illegible]

Type and Amount of Cement: [illegible]

Subsurface Equipment: [illegible]

Completion Method: [illegible]

Plugging Record: [illegible]

Holding Tanks and Flow Lines: [illegible]

Total Cost of Construction: [illegible]
Operating Cost: [illegible]

VI. OPERATING CHARACTERISTICS

Injection Rates:

Date	Avg.	Maximum
[illegible]	[illegible]	[illegible]

Injection Pressure:

Date	Avg.	Maximum
[illegible]	[illegible]	[illegible]

Operating History, Special Problems: [illegible]

VII. MONITORING

Monitoring Devices and Data: [illegible]

Sampling Frequency and Water Quality Parameters Measured: [illegible]

Frequency of Measuring Water Levels and Hydrostatic Heads: [illegible]

Contingency Plan for Well Failure During Operation: [illegible]

Construction Requirements: [illegible]

Monitoring Requirements: [illegible]

Restrictions on Operation Procedures: [illegible]

MISCELLANEOUS

[illegible]

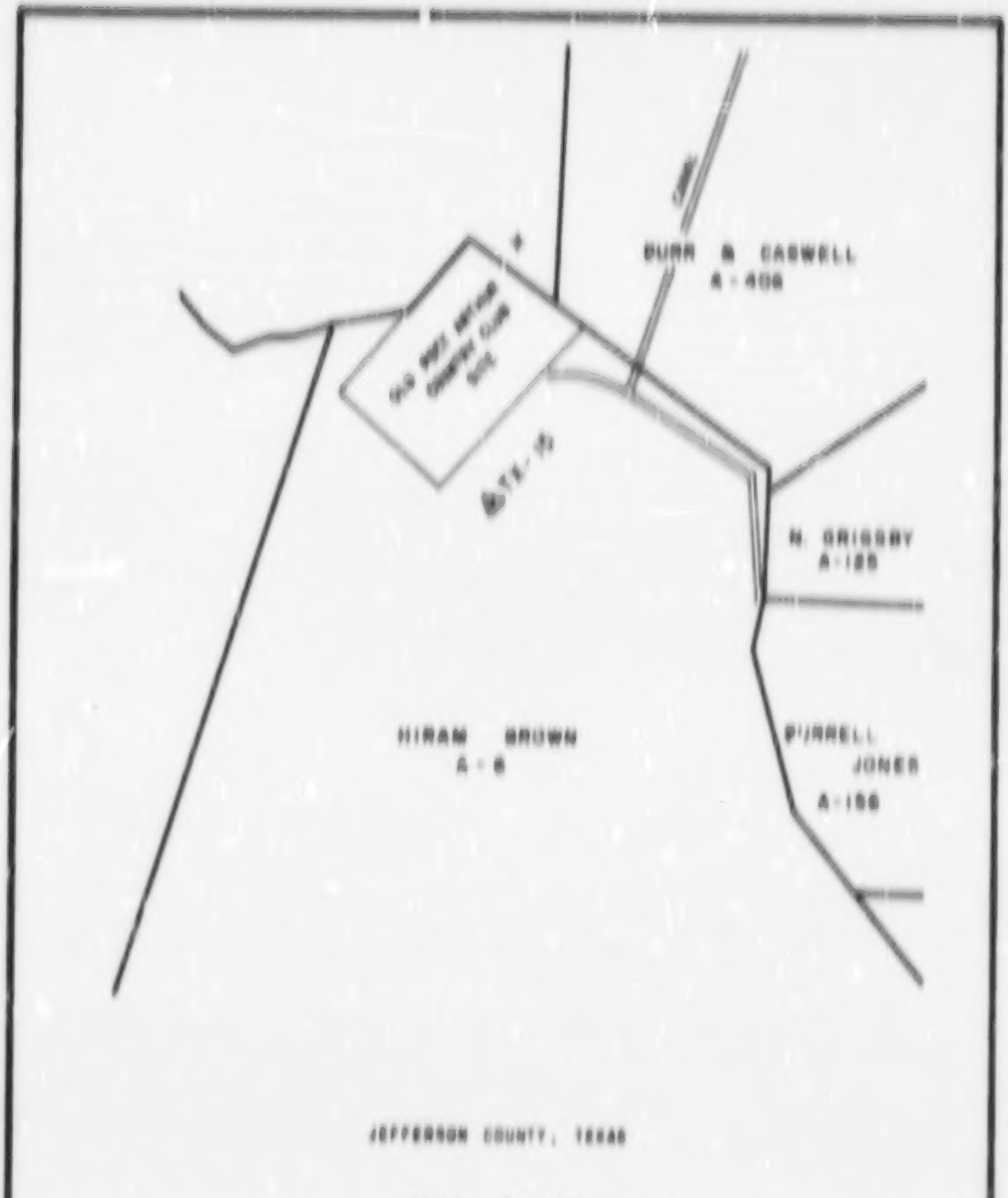


Figure 116 Location map of well TX-15

OPERATING COMPANY: [illegible]
ADDRESS [illegible]

OPERATIONAL STATUS: [illegible] REGION NO.: [illegible]
PERMIT STATUS: [illegible] WELL CODE: [illegible]

I. [illegible]

[illegible]

II. GENERAL WELL DATA

[illegible]

III. GEOLOGIC INFORMATION

[illegible]

IV. WASTE CHARACTERISTICS

[illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

[illegible]

VI. OPERATING CHARACTERISTICS

[illegible]

VII. MONITORING

[illegible]

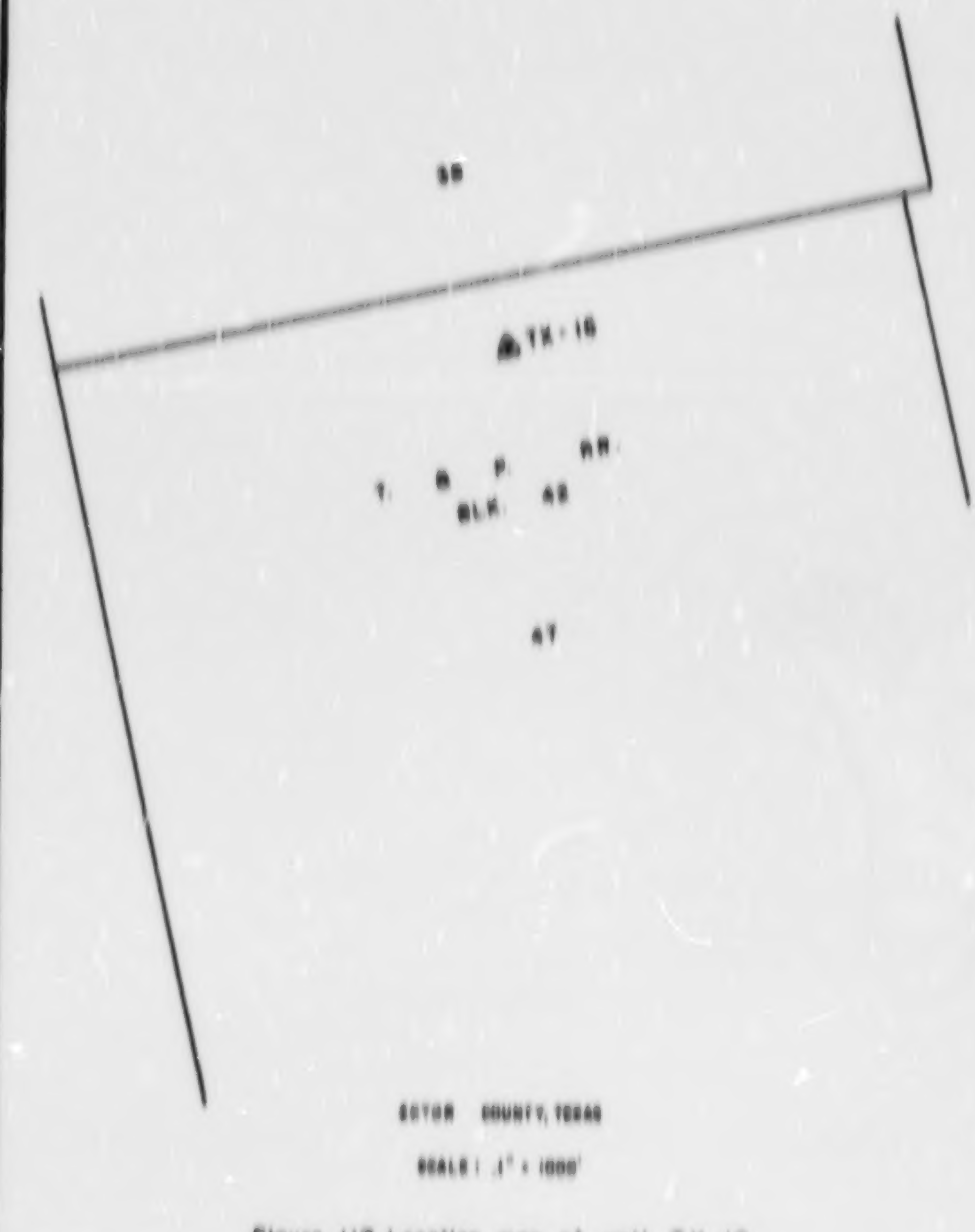


Figure 117 Location map of well TX-16

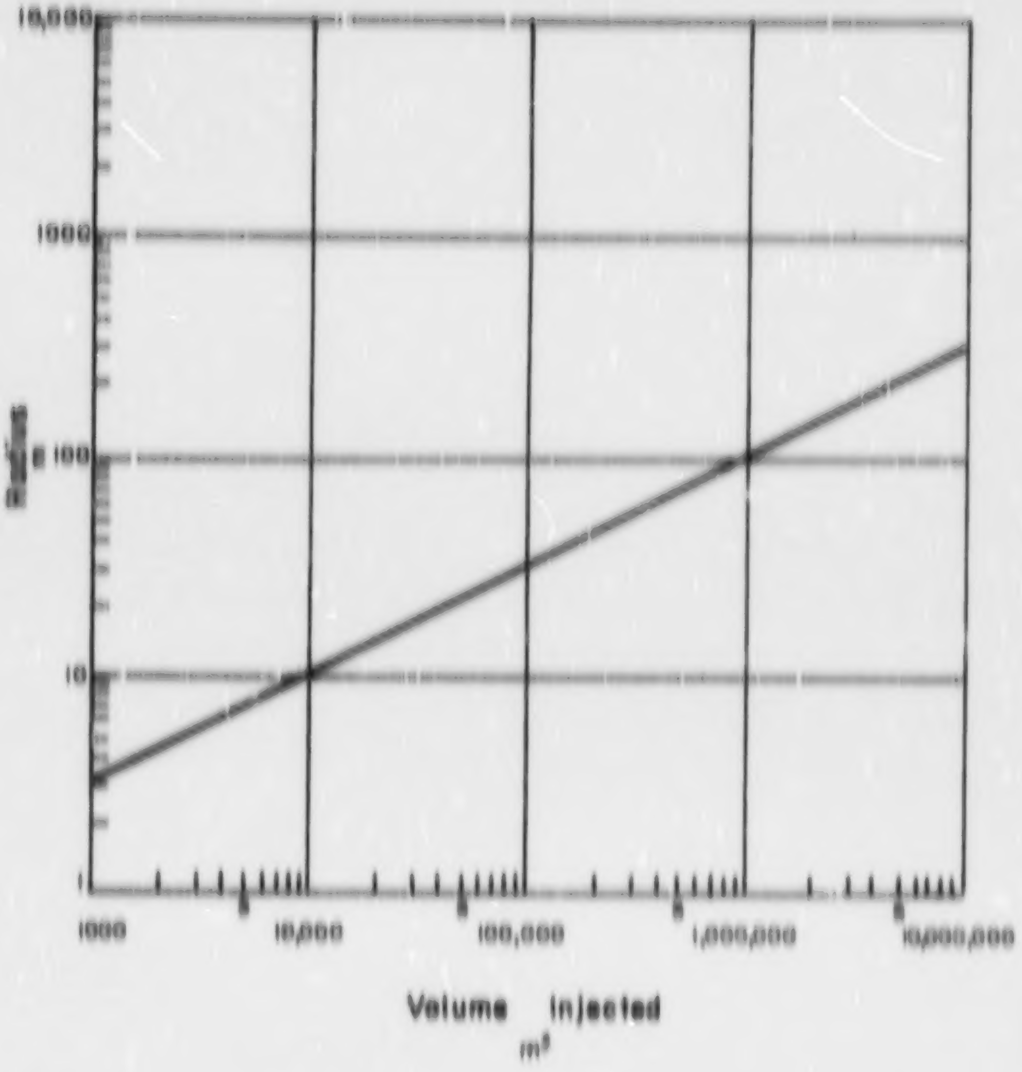
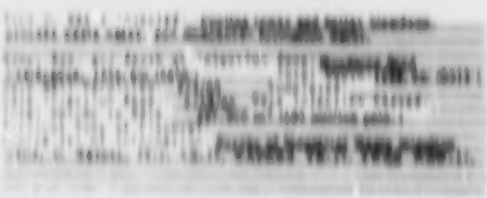
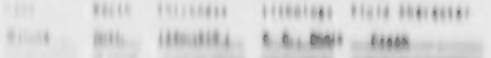
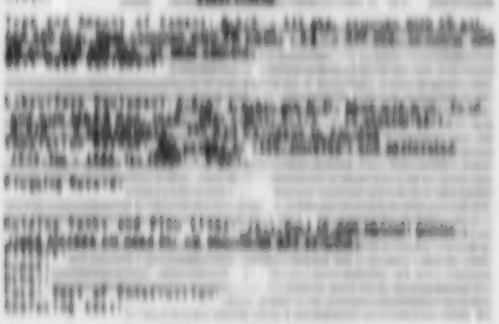
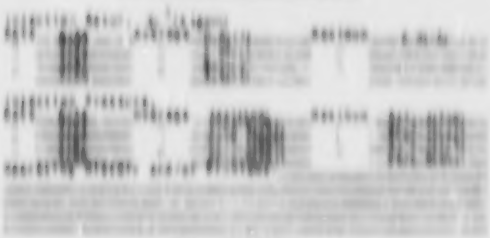


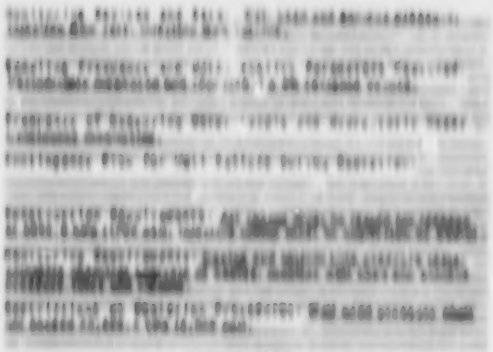
Figure 11B Radius of invasion for well TX-16

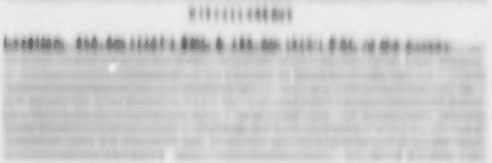












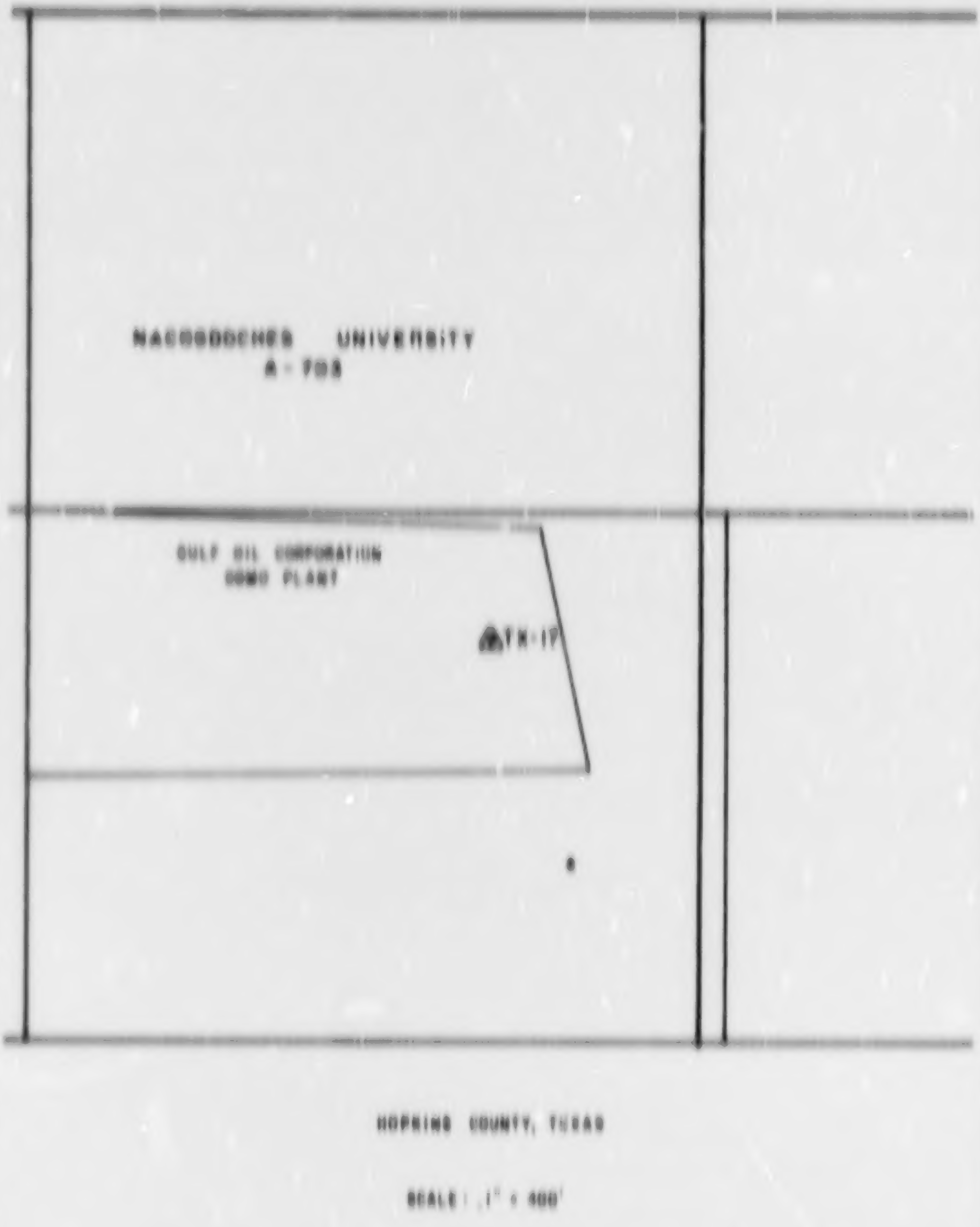


Figure 119 Location map of well TX-17

OPERATING COMPANY:

ADDRESS

OPERATIONAL STATUS:

PERMIT STATUS:

REGION NO.:

WELL CODE:

I. GENERAL IDENTIFICATION DATA

II. GENERAL WELL DATA

III. GEOLOGIC INFORMATION

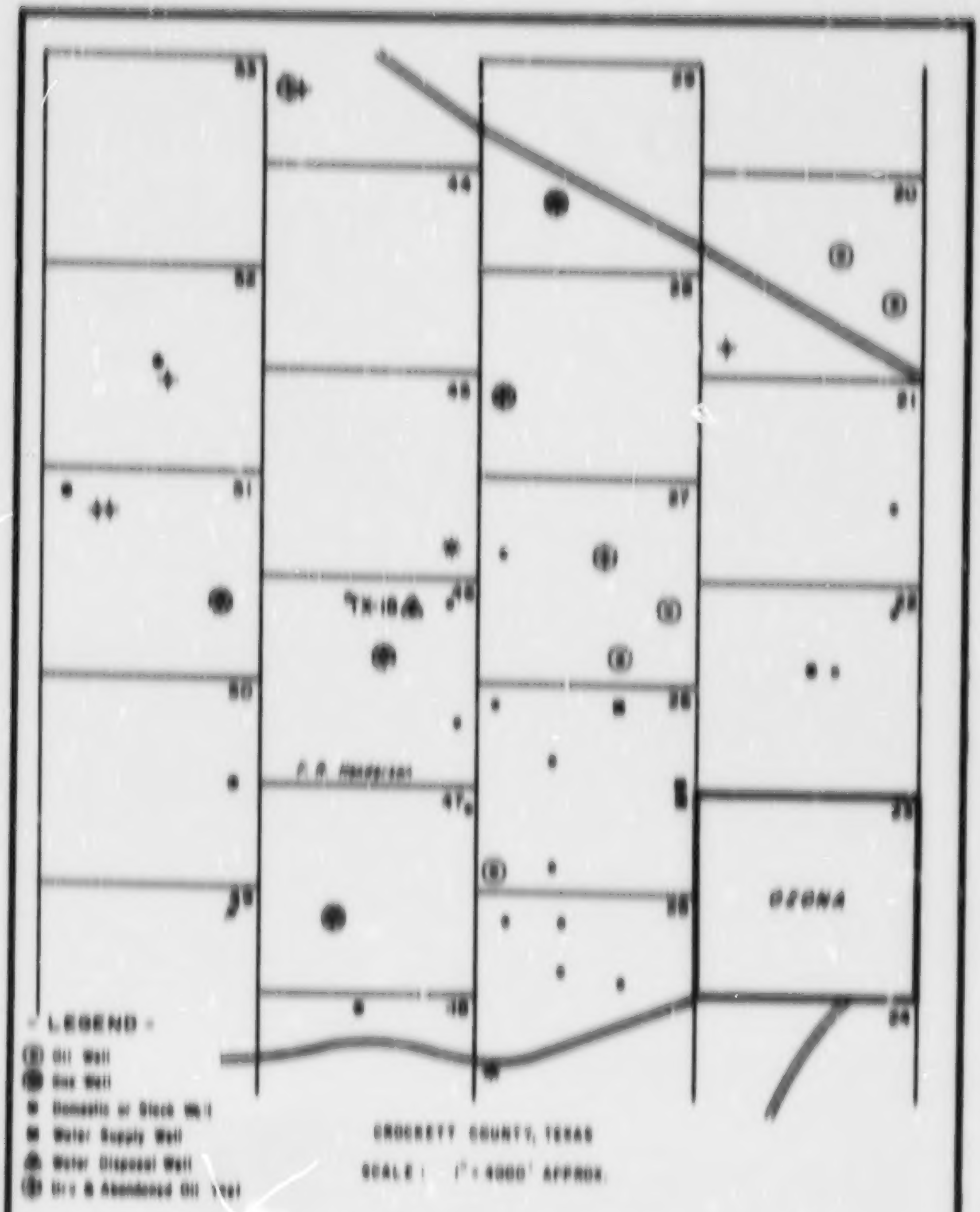
IV. WASTE CHARACTERISTICS

V. WELL DESIGN AND SURFACE EQUIPMENT

VI. OPERATING CHARACTERISTICS

VII. MONITORING

MISCELLANEOUS



igure 120 Location map of well TX-18

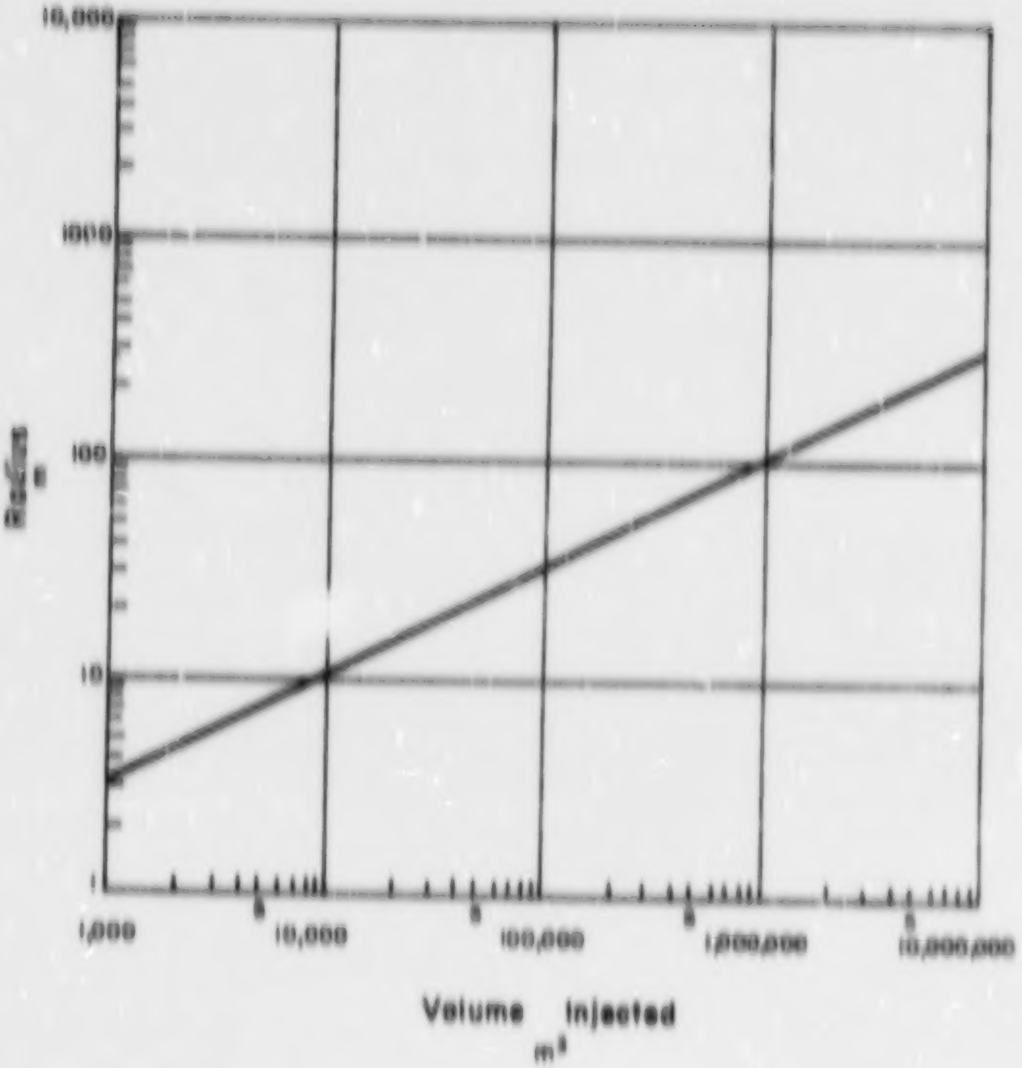


Figure 121 Radius of invasion for well TX-18

OPERATING COMPANY:

ADDRESS

OPERATIONAL STATUS:

PERMIT STATUS:

REGION NO.:

WELL CODE:

I. GENERAL IDENTIFICATION DATA

II. GENERAL WELL DATA

III. GEOLOGIC INFORMATION

IV. WASTE CHARACTERISTICS

V. WELL DESIGN AND SURFACE EQUIPMENT

VI. OPERATING CHARACTERISTICS

VII. MONITORING

MISCELLANEOUS

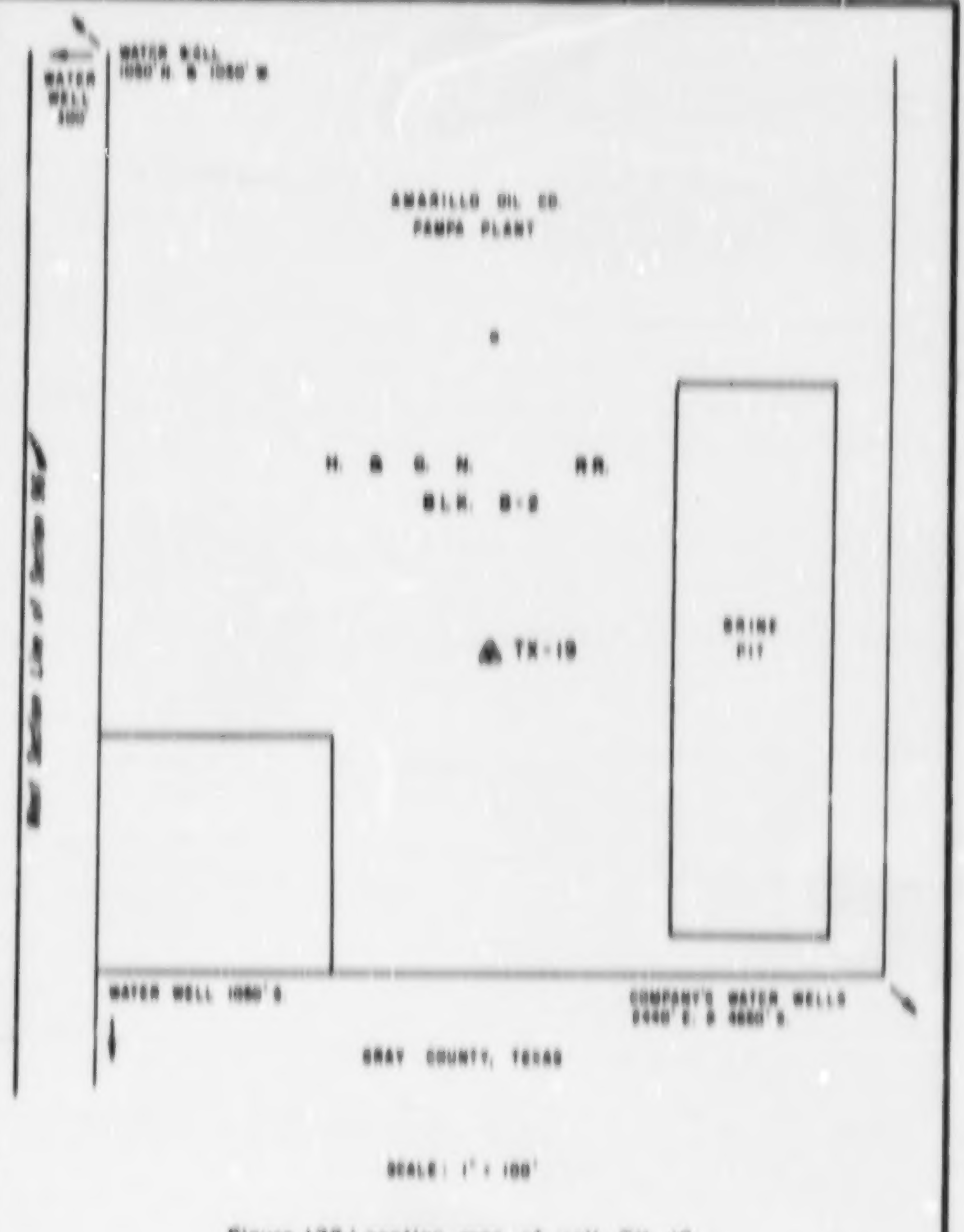


Figure 122 Location map of well TX-19

[illegible]

[illegible]

[illegible]

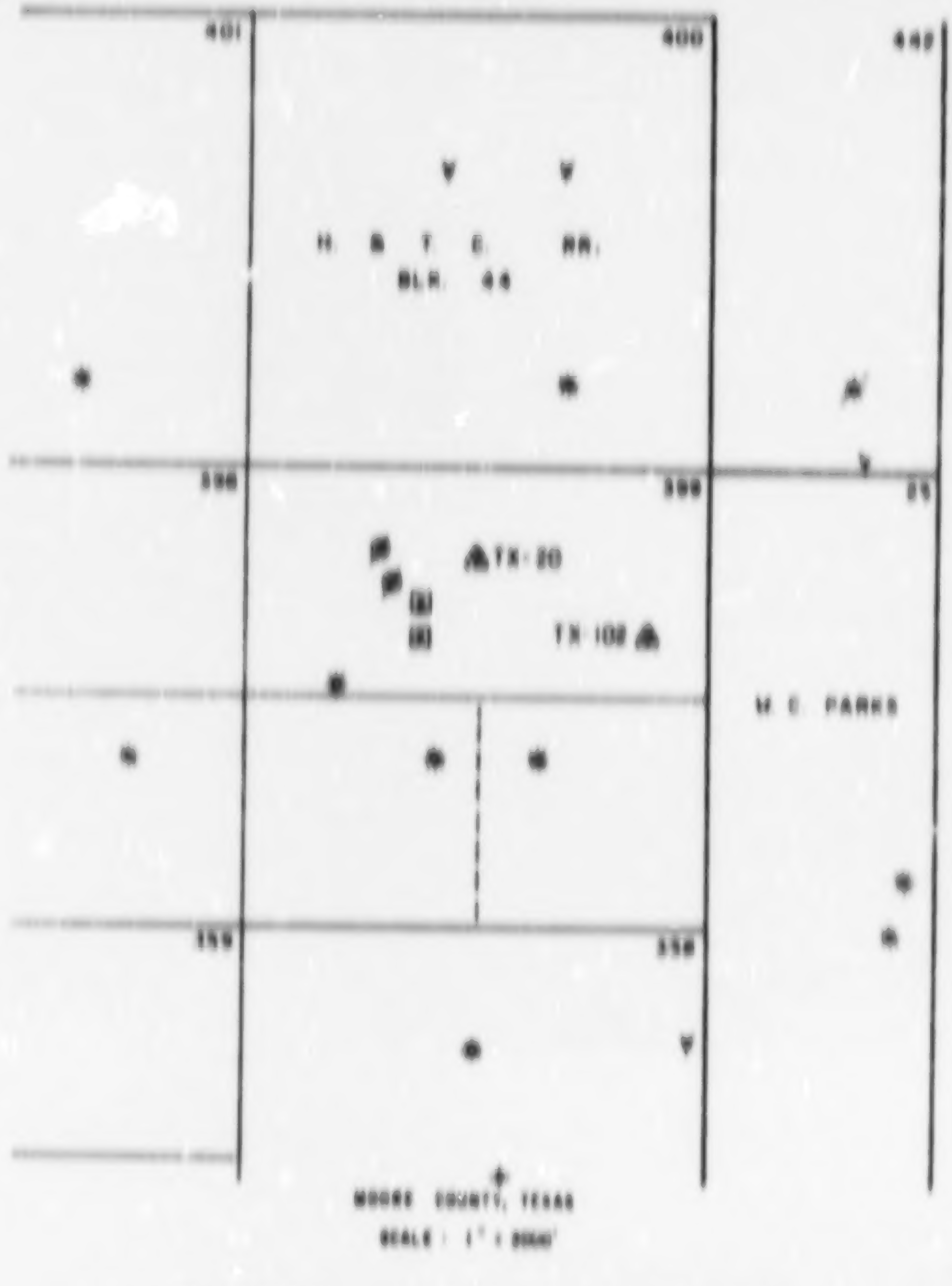


Figure 123 Location map of wells TX-20, 102

[illegible]

[illegible]

[illegible]

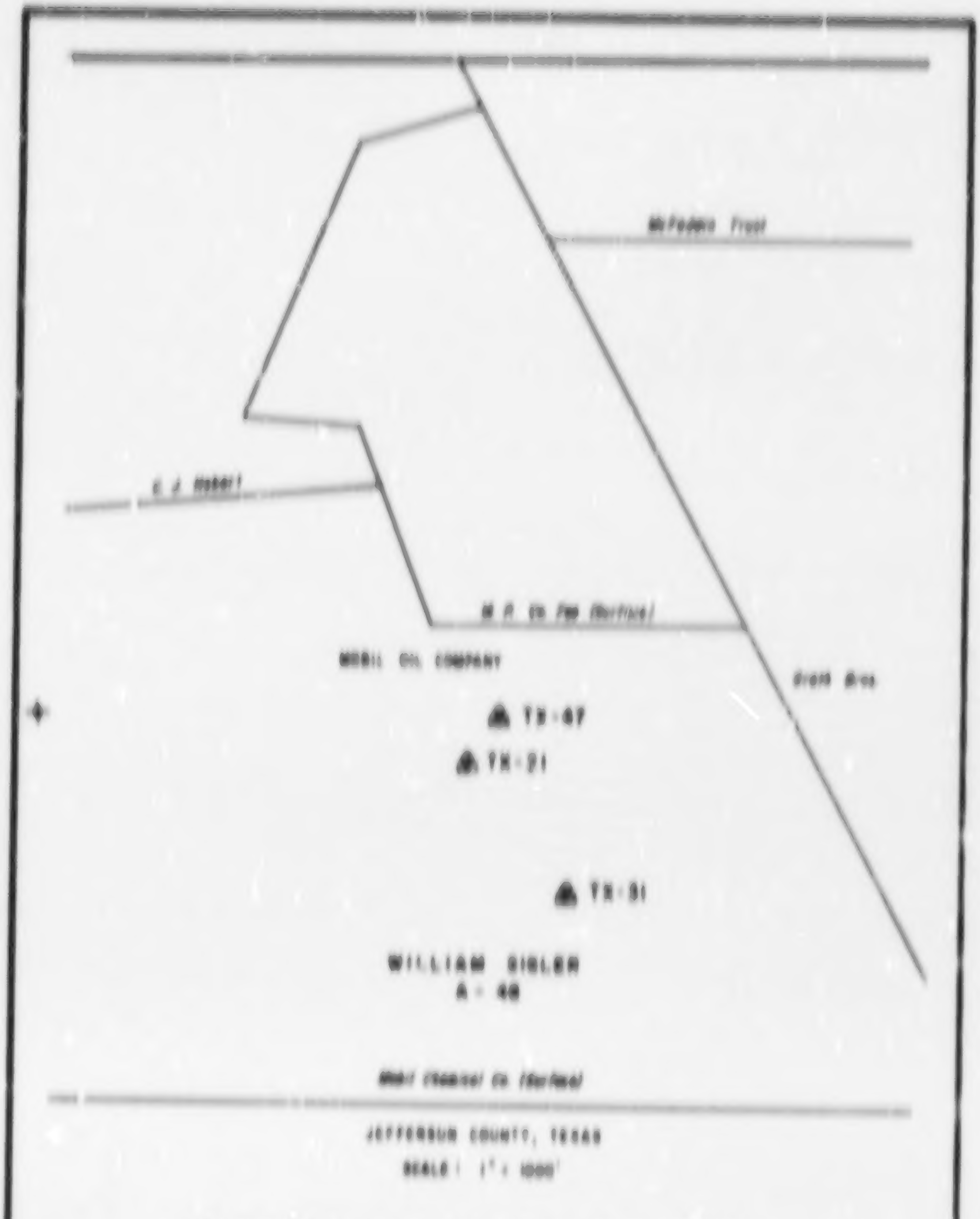


Figure 124 Location map of wells TX-21, 31, 47

[illegible]

[illegible]

[illegible]

OPERATING COMPANY: [illegible]
ADDRESS: [illegible]

OPERATIONAL STATUS: [illegible] REGION NO.: [illegible]
PERMIT STATUS: [illegible] [illegible] CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

Type of Waste Injected: [illegible]

[illegible]

III. GEOLOGIC INFORMATION

Geological Description of Rock Units Penetrated by Well:

Name	Age	Depth	Thickness	Lithology
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Description of Injection Unit:

[illegible]

IV. WASTE CHARACTERISTICS

[illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

Casing-Tubing Wt. & Grade [illegible]

Type and Amount of Cement: [illegible]

Well Head Equipment: [illegible]

Subsurface Equipment: [illegible]

Completion Method: [illegible]

[illegible]

Holding Tanks and Flow Lines: [illegible]

VI. OPERATING CHARACTERISTICS

Injection Rates: [illegible]

Injection Pressure: [illegible]

[illegible]

VII. MONITORING

Monitoring Devices and Data: [illegible]

Sampling Frequency and Water Quality Parameters Measured: [illegible]

Frequency of Measuring Water Levels and Hydrostatic Heads: [illegible]

Contingency Plan for Well Failure During Operation: [illegible]

[illegible]

Monitoring Requirements: [illegible]

Restrictions on Operating Procedures: [illegible]

MISCELLANEOUS

[illegible]

[redacted]

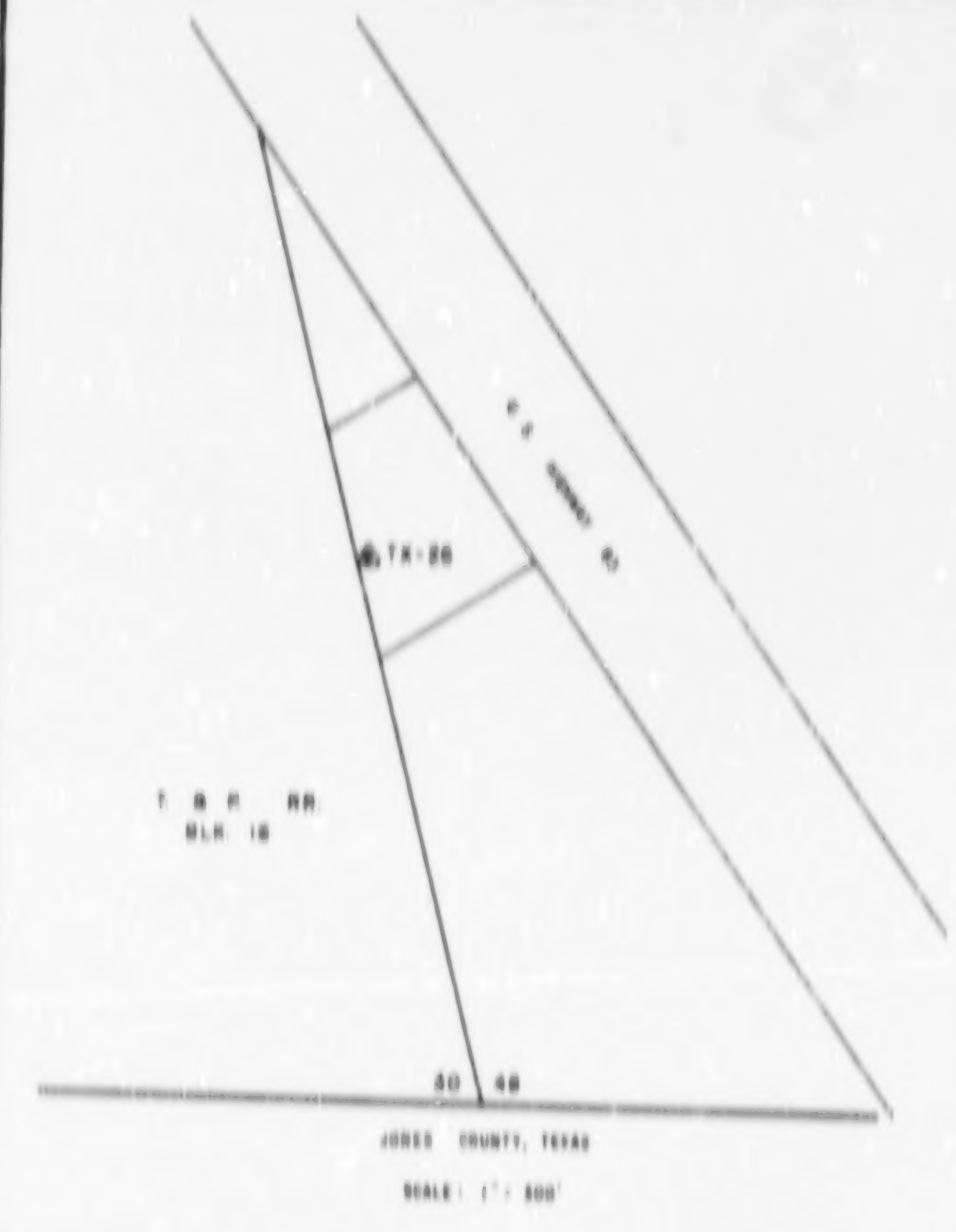


Figure 125 Location map of well TX-26

[redacted]

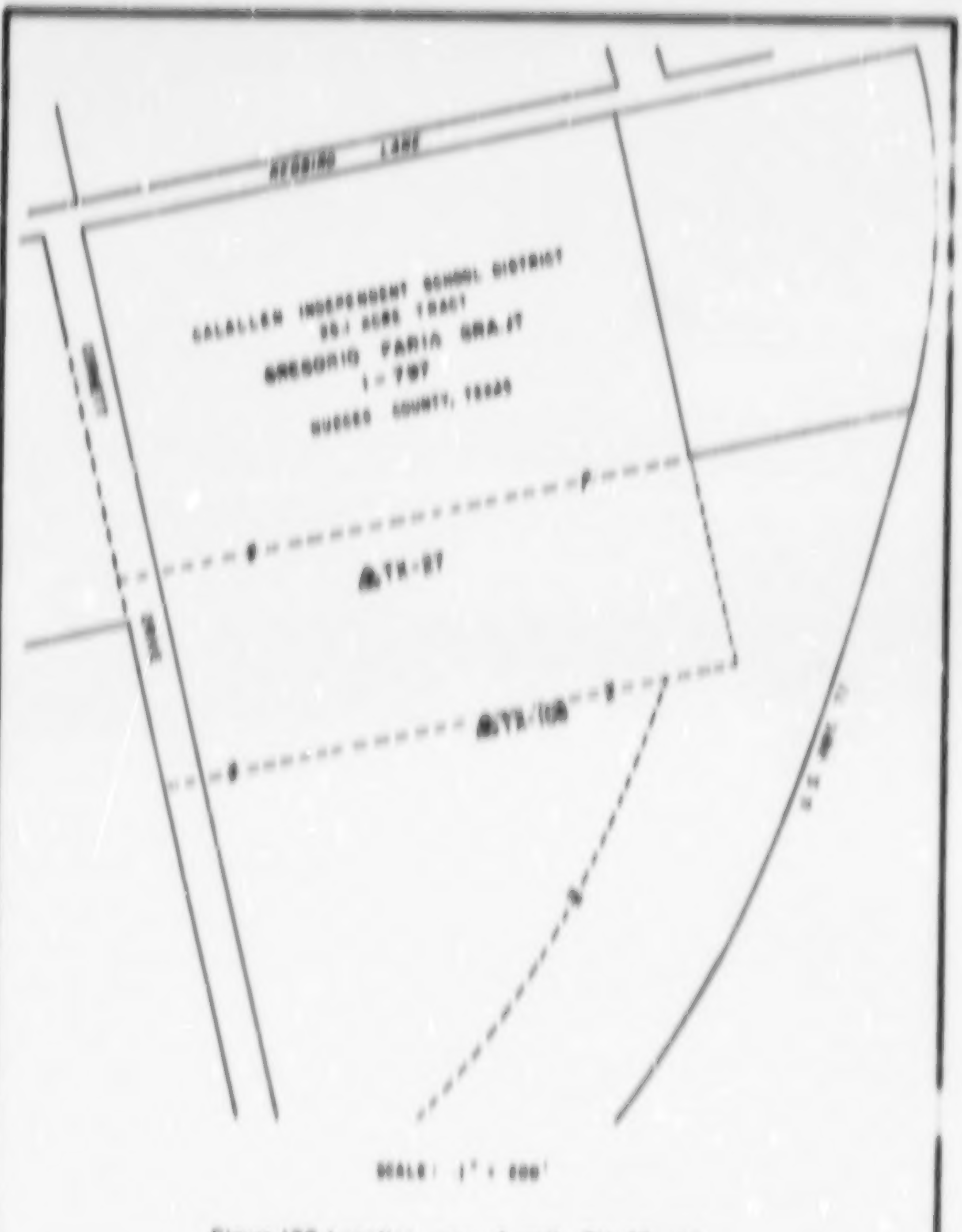


Figure 126 Location map of wells TX-27, IO8

[redacted]

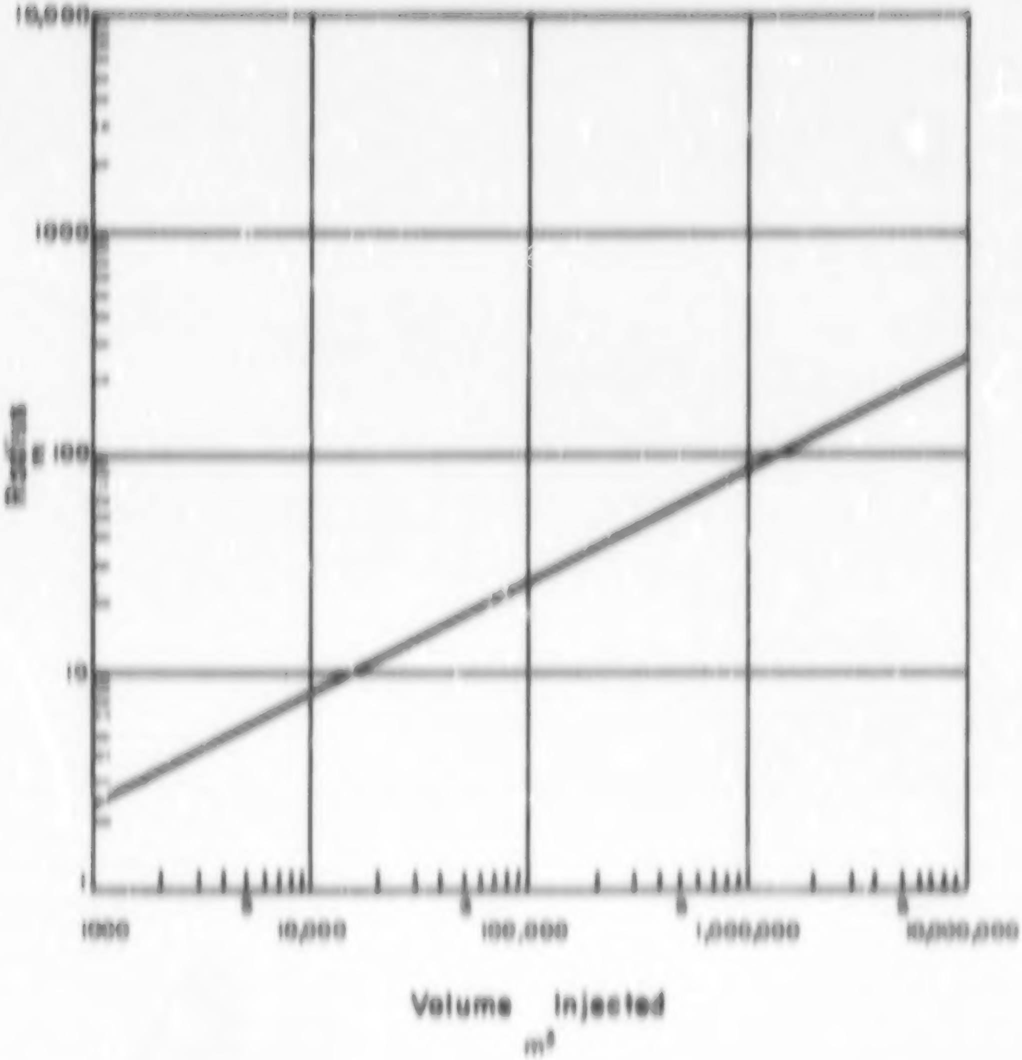
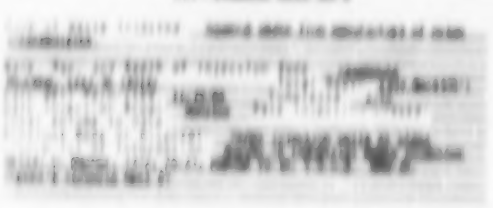
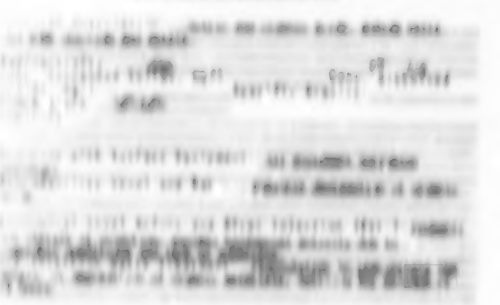


Figure 127 Radius of invasion for well TX-29





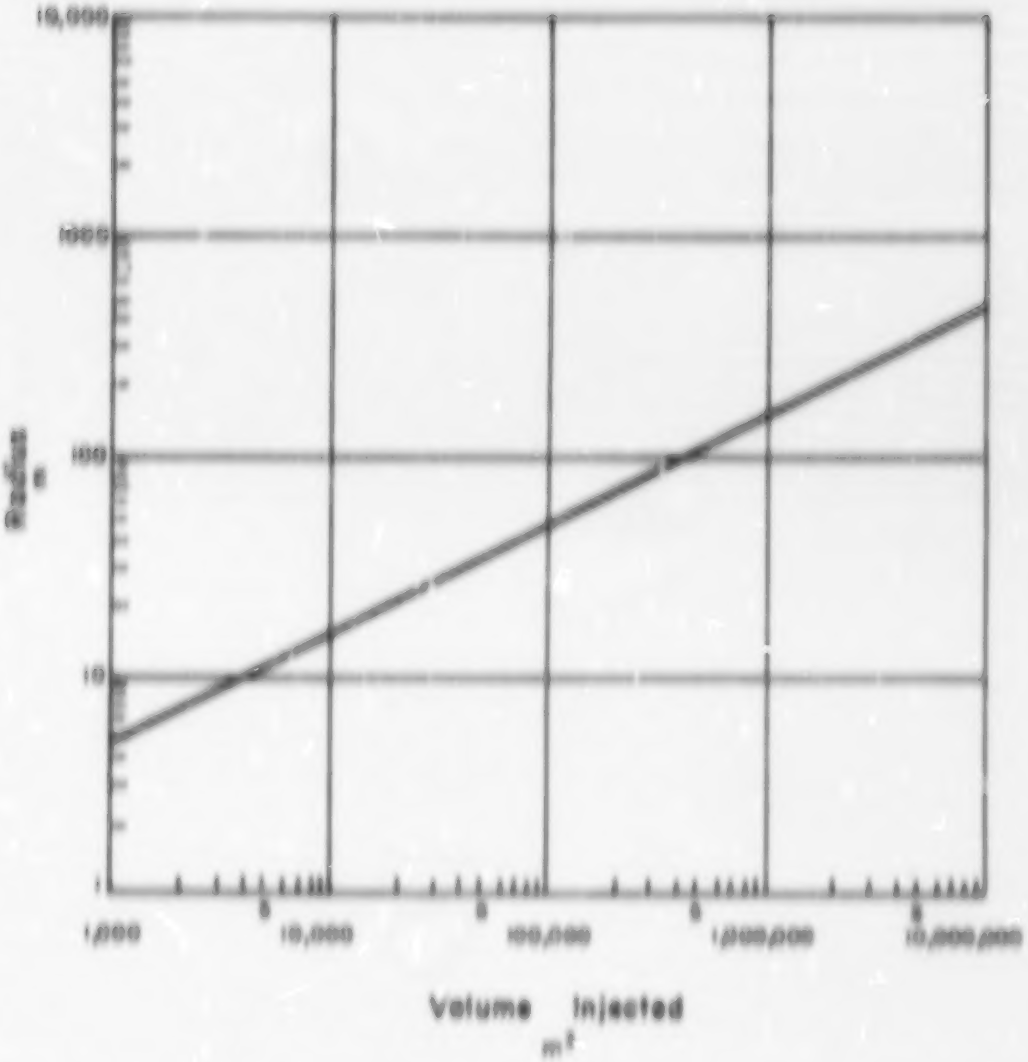


Figure 126 Radius of invasion for well TX-32

OPERATING COMPANY: [illegible]
ADDRESS [illegible]

OPERATIONAL STATUS: [illegible]
PERMIT STATUS: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

[illegible]

III. GEOLOGIC INFORMATION

[illegible]

IV. WASTE CHARACTERISTICS

[illegible]

Compatibility with Surface Equipment: [illegible]

[illegible]

Pre-Injection Waste Treatment: [illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

[illegible]

Plugging Record: [illegible]

Holding Tanks and Flow Lines: [illegible]

[illegible]

VI. OPERATING CHARACTERISTICS

[illegible]

VII. MONITORING

Monitoring Devices and Data: [illegible]

Sampling Frequency and Water Quality Parameters Measured: [illegible]

Frequency of Measuring Water Levels and Hydrostatic Heads: [illegible]

Contingency Plan for Well Failure During Operation: [illegible]

[illegible]

Restrictions on Operation Procedures: [illegible]

MISCELLANEOUS

[illegible]

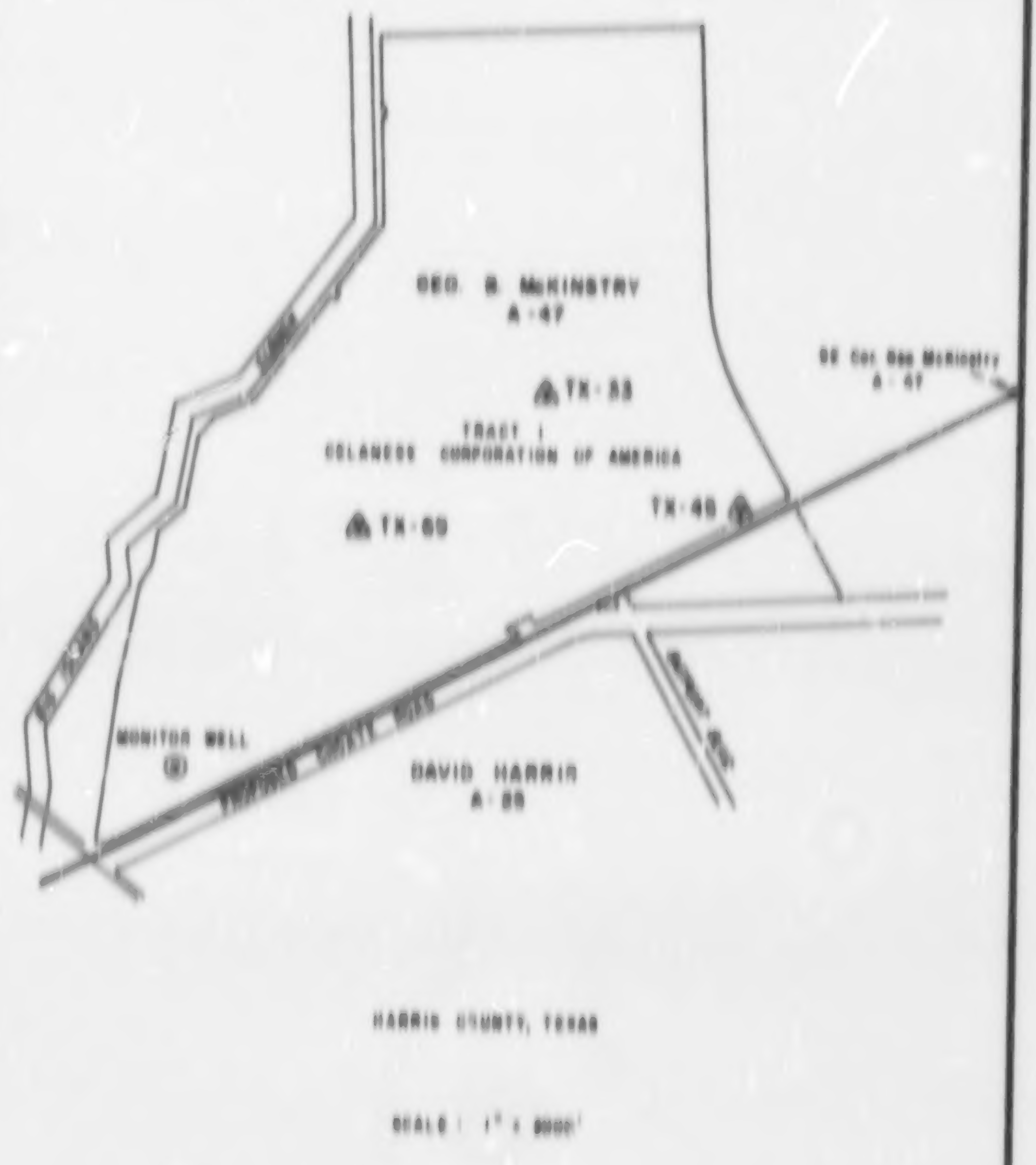


Figure 129 Location map of wells TX-33, 45, 69

OPERATING COMPANY: [illegible]
ADDRESS: [illegible]

OPERATIONAL STATUS: [illegible] REGION: [illegible]
PERMIT STATUS: [illegible] WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

[illegible]

III. GEOLOGIC INFORMATION

[illegible]

IV. WASTE CHARACTERISTICS

[illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

[illegible]

VI. OPERATING CHARACTERISTICS

[illegible]

VII. MONITORING

[illegible]

[illegible]

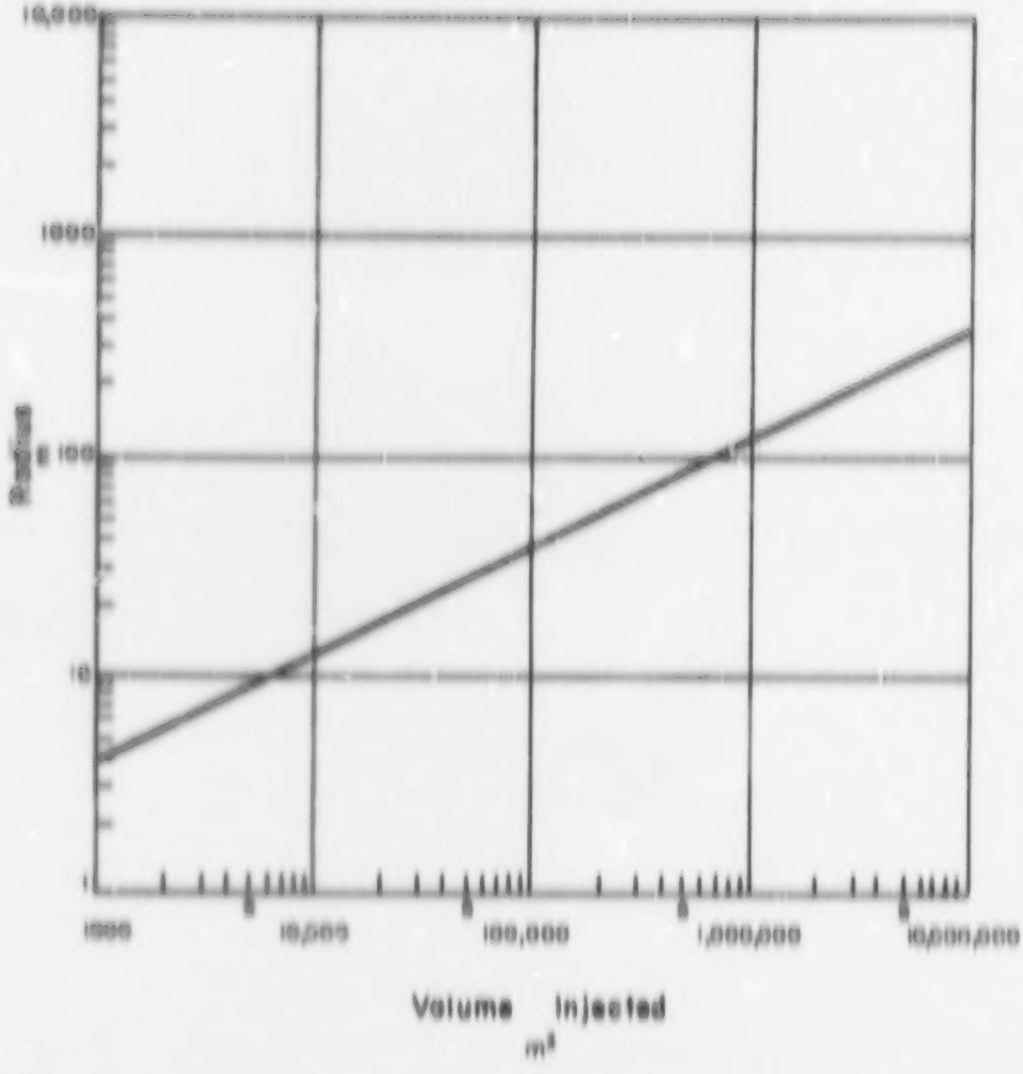


Figure 130 Radius of invasion for well TX-34

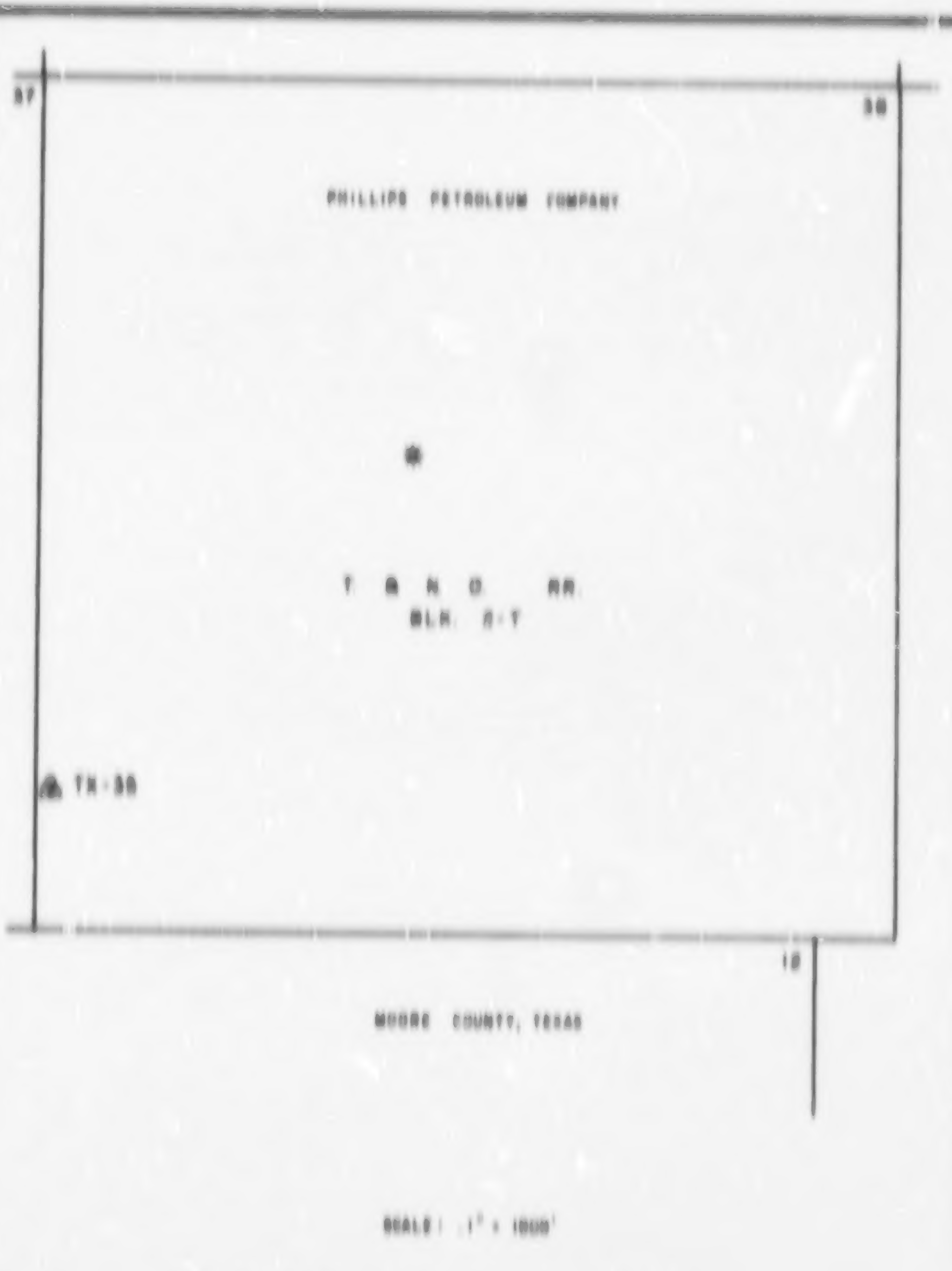


Figure (3) Location map of well TX-35

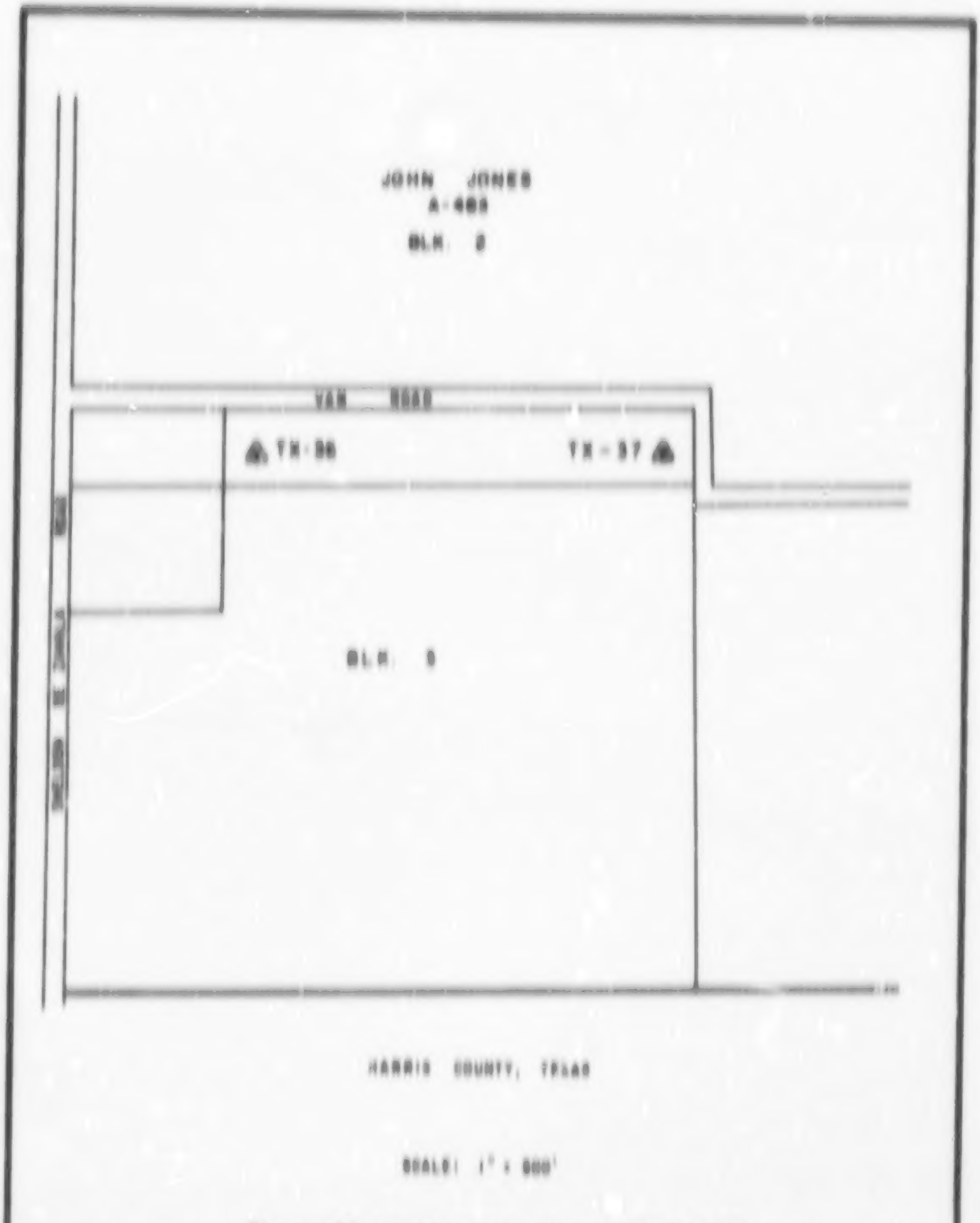


Figure 132 Location map of well TX-36, 37

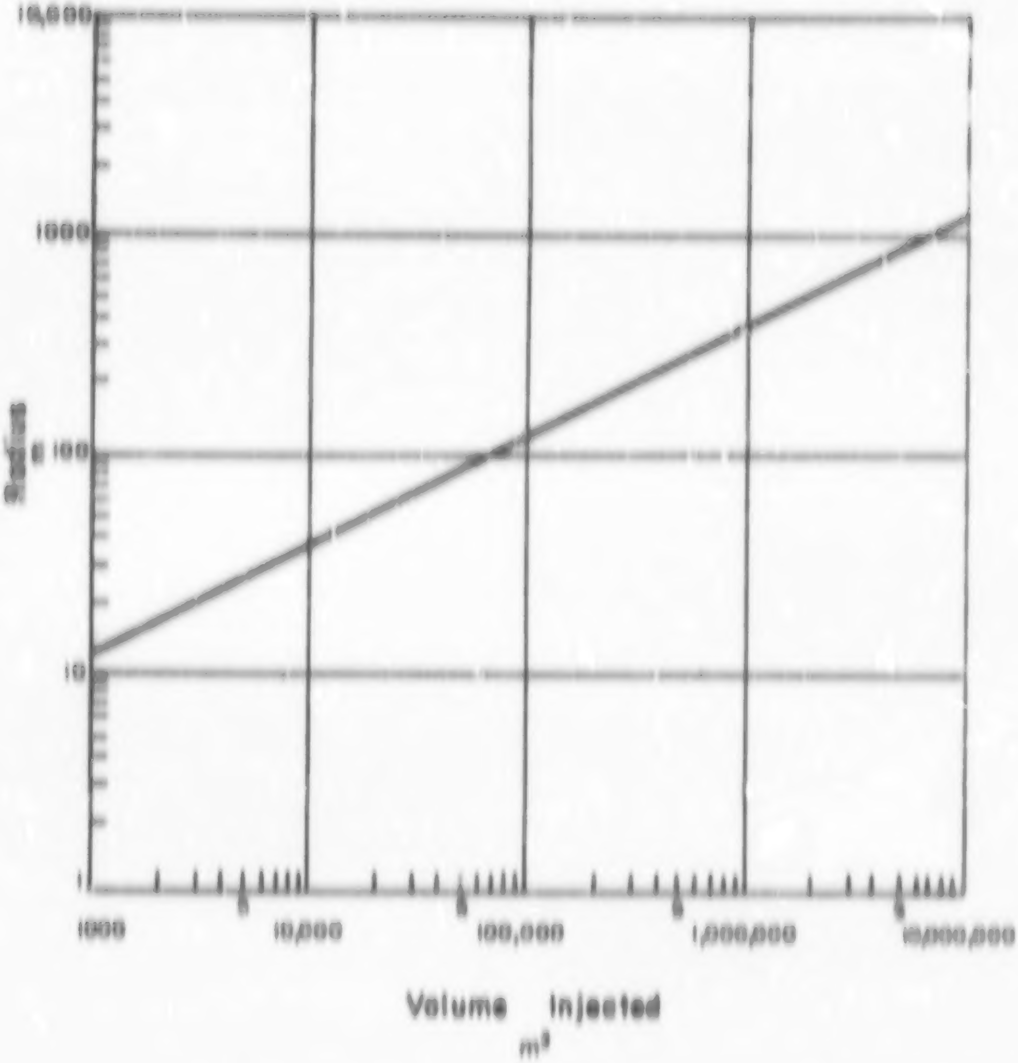
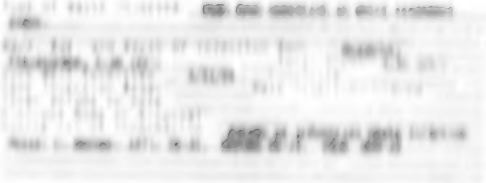
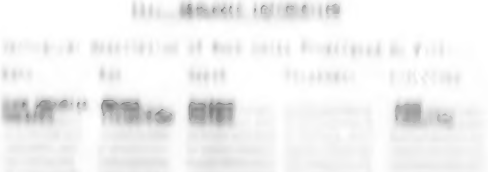


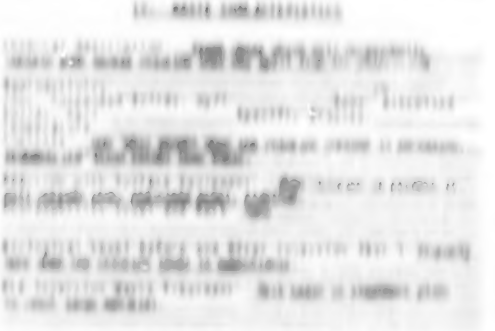
Figure 133 Radius of invasion for well TX-36

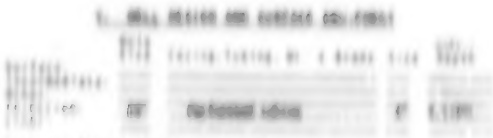
[redacted]

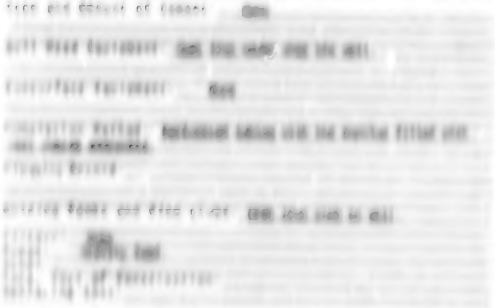
[illegible]











OPERATING COMPANY: [illegible]
ADDRESS: [illegible]

OPERATIONAL STATUS: [illegible] REGION NO. [illegible]
PERMIT STATUS: [illegible] WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

Type of Waste Injected: [illegible]

[illegible]

III. GEOLOGIC INFORMATION

[illegible]

Description of Injection Unit: [illegible]

[illegible]

IV. WASTE CHARACTERISTICS

[illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

[illegible]

Type and Amount of Cement: [illegible]

Well Head Equipment: [illegible]

Subsurface Equipment: [illegible]

Completion Method: [illegible]

[illegible]

VI. OPERATING CHARACTERISTICS

[illegible]

VII. MONITORING

[illegible]

References: [illegible]

[illegible]

OPERATIONAL STATUS: [illegible] REGION #: [illegible]
PERMIT STATUS: [illegible] WELL CODE: [illegible]

I. [illegible]

[illegible]

II. [illegible]

[illegible]

III. [illegible]

[illegible]

IV. [illegible]

[illegible]

V. [illegible]

Type and Source of Waste: [illegible]

[illegible]

VI. [illegible]

[illegible]

VII. [illegible]

[illegible]

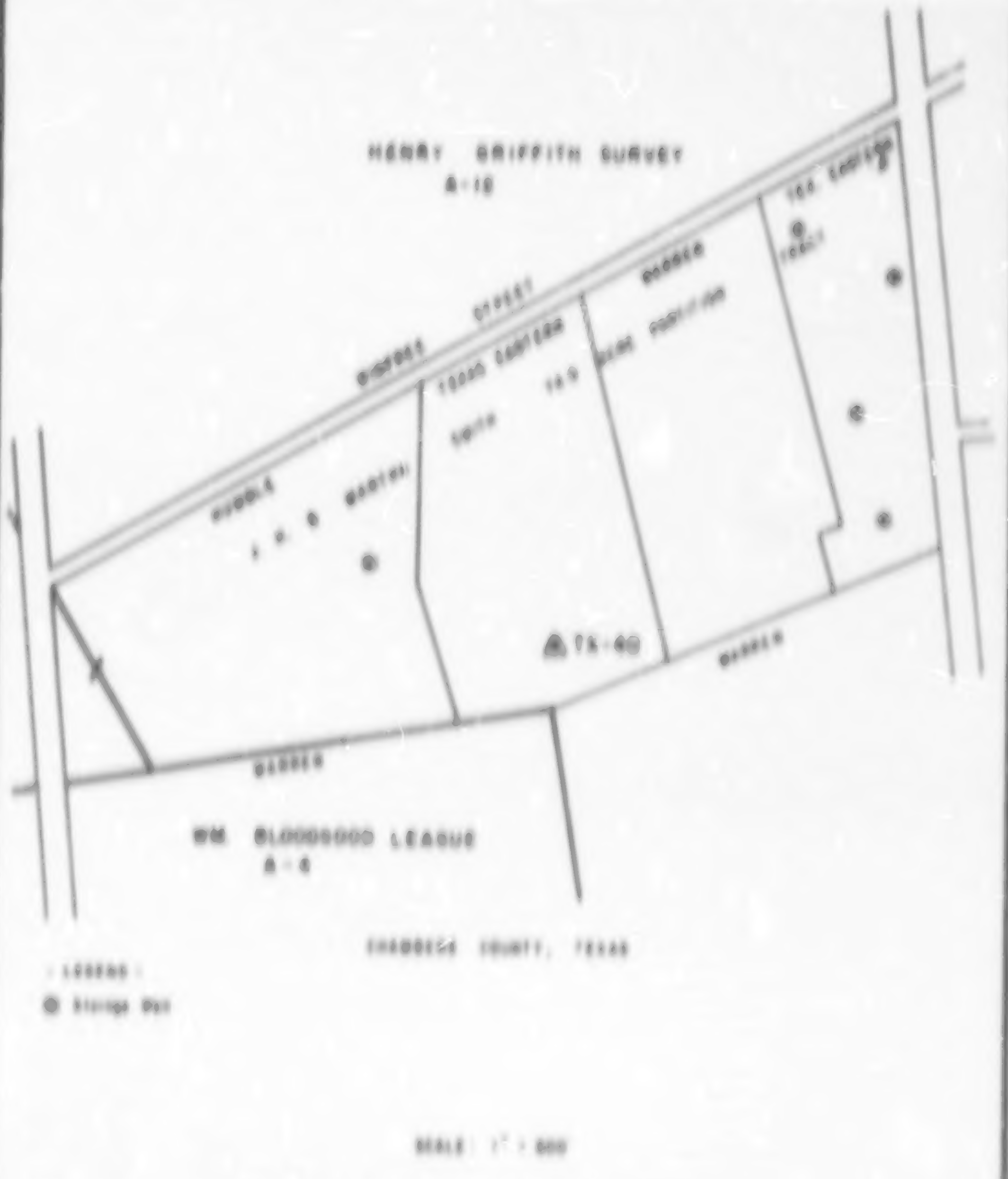


Figure 134 Location map of well TX-40

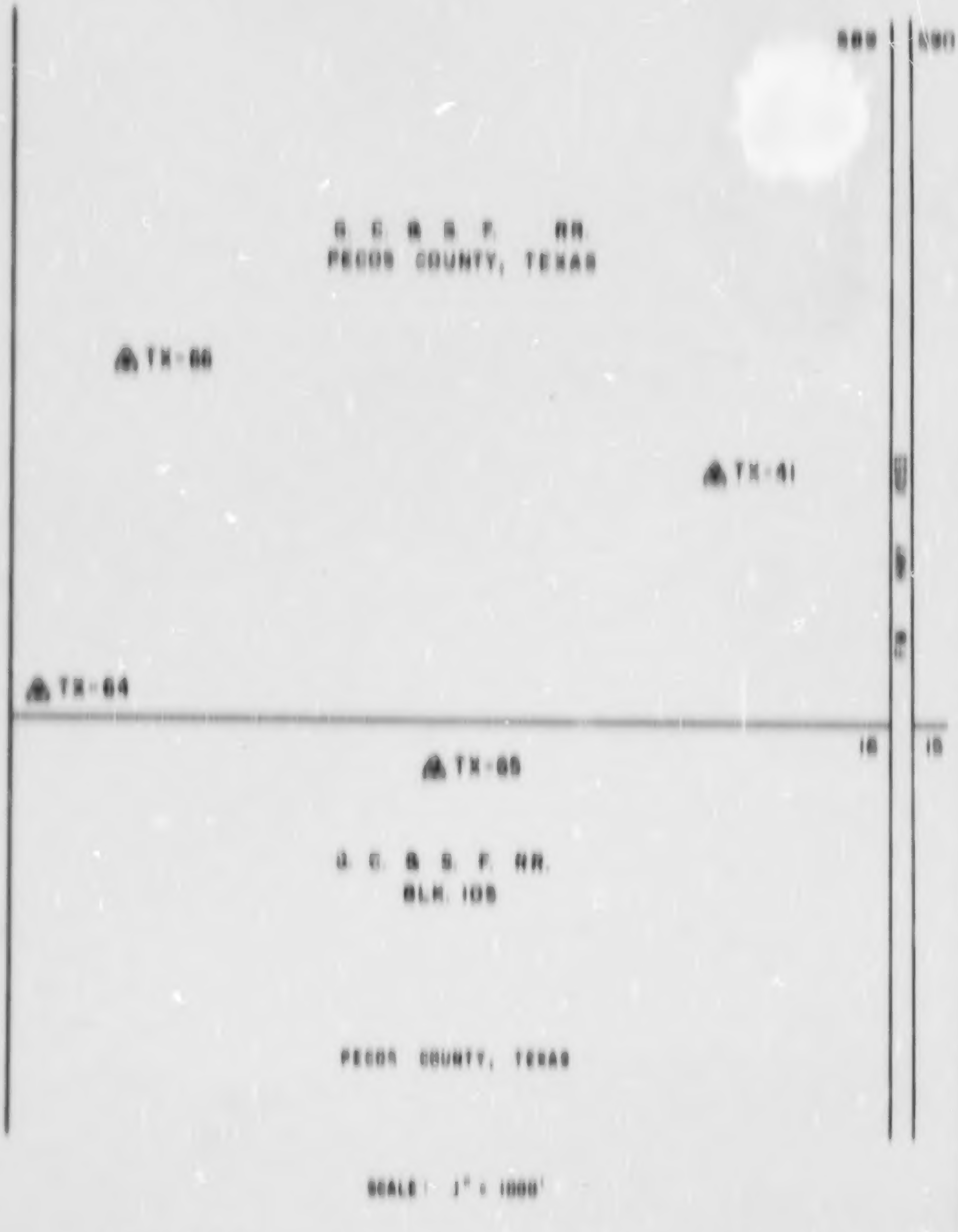


Figure 135 Location map of wells TX-41, 64, 65, 66

OPERATING COMPANY:
ADDRESS

OPERATIONAL STATUS:
REGION NO.:
PERMIT STATUS:
WELL CODE:

I. GENERAL IDENTIFICATION DATA

II. GENERAL WELL DATA

III. GEOLOGIC INFORMATION

IV. WASTE CHARACTERISTICS

V. WELL DESIGN AND SURFACE EQUIPMENT

VI. OPERATION CHARACTERISTICS

VII. MONITORING

MISCELLANEOUS

OPERATING COMPANY:

ADDRESS

OPERATIONAL STATUS:

PERMIT STATUS:

REGION NO.:

WELL CODE:

I. GENERAL IDENTIFICATION DATA

II. GENERAL WELL DATA

III. GEOLOGIC INFORMATION

IV. WASTE CHARACTERISTICS

V. WELL DESIGN AND SURFACE EQUIPMENT

VI. OPERATING CHARACTERISTICS

VII. MONITORING

REFERENCES

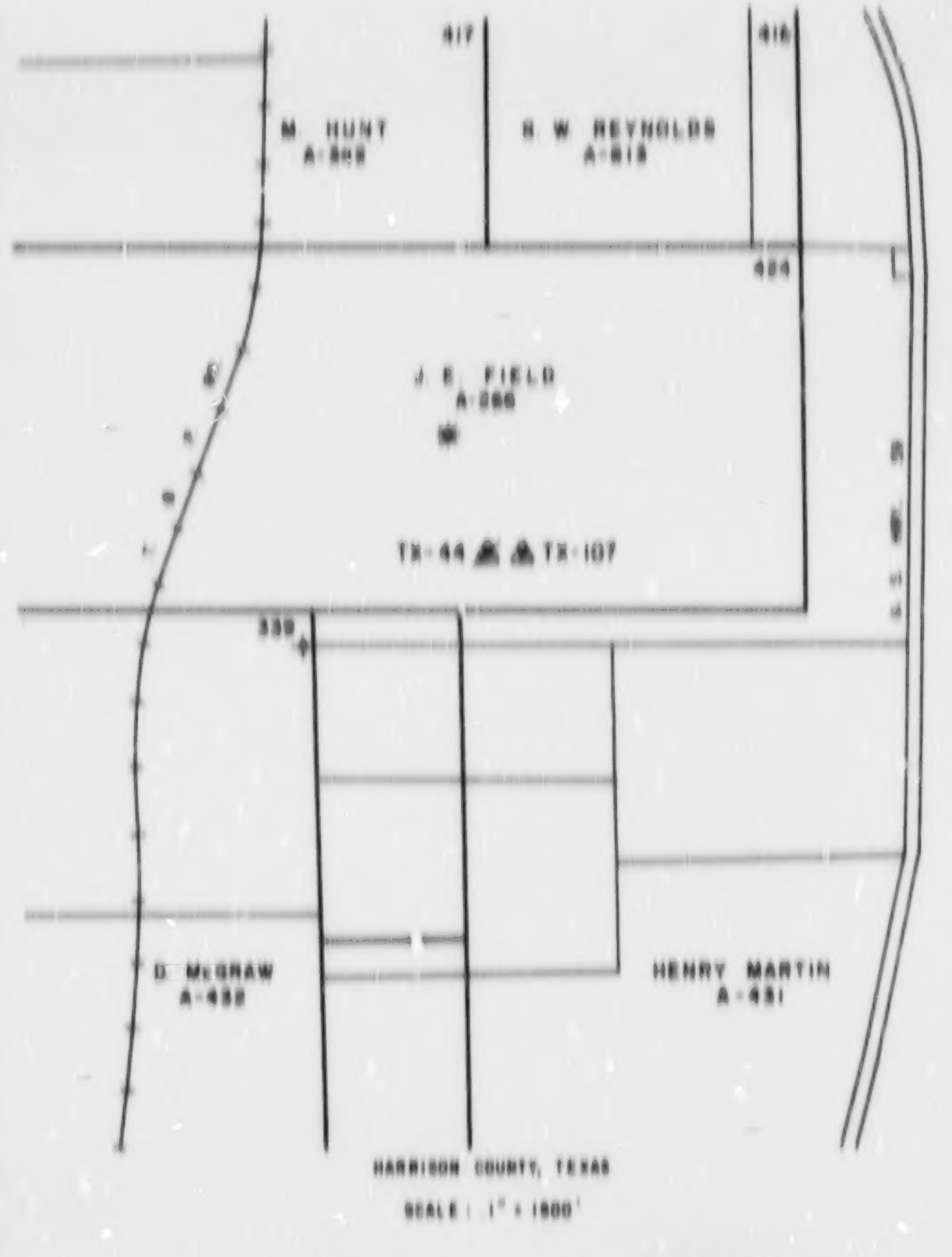


Figure 136 Location map of wells TX-44, 107

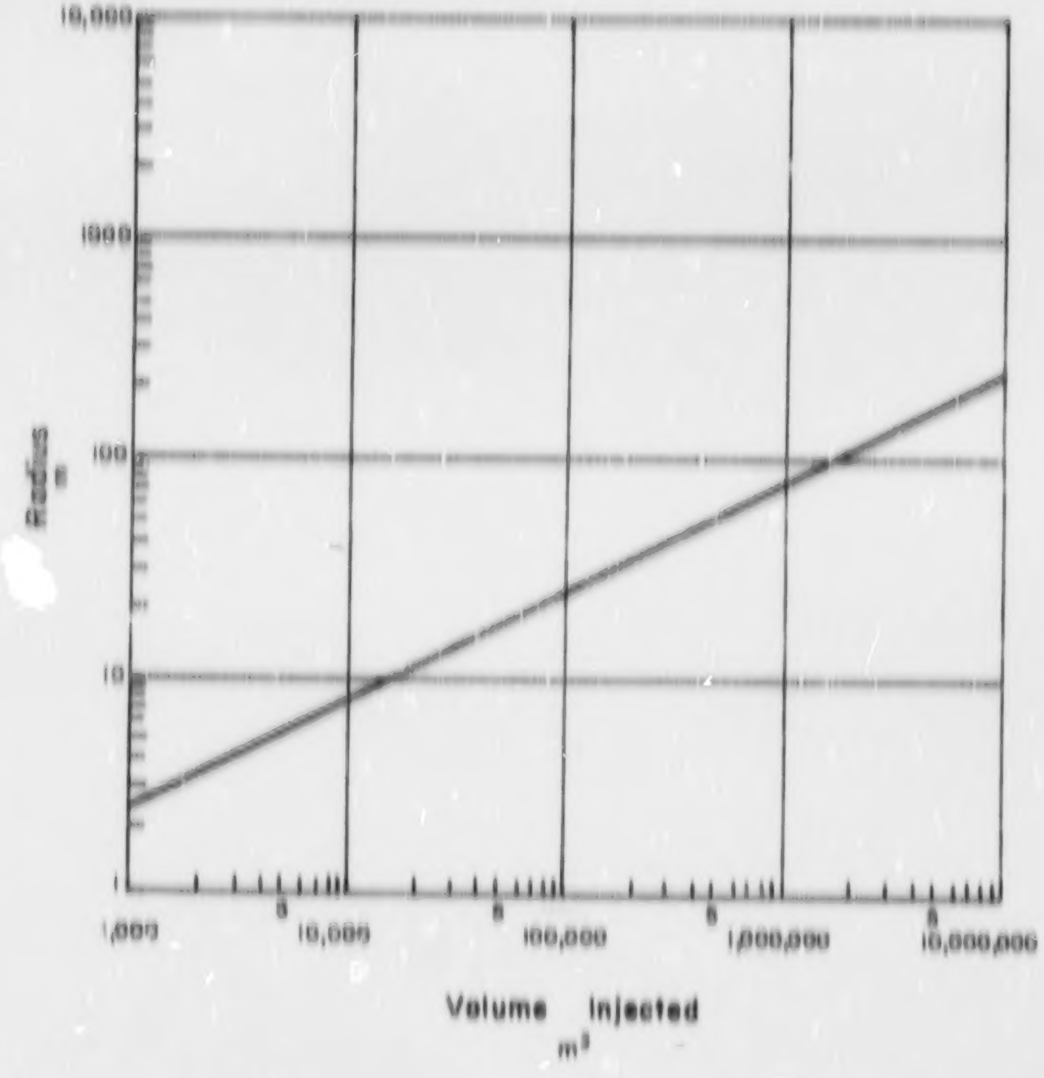


Figure 137 Radius of invasion for well TX-44

[illegible]

[illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

[illegible]

III. GEOLOGIC INFORMATION

[illegible]

IV. WASTE CHARACTERISTICS

[illegible]

V. WELL DESIGN AND CONSTRUCTION EQUIPMENT

[illegible]

VI. OPERATION CHARACTERISTICS

[illegible]

VII. MONITORING

[illegible]

DISCLOSURES

[illegible]

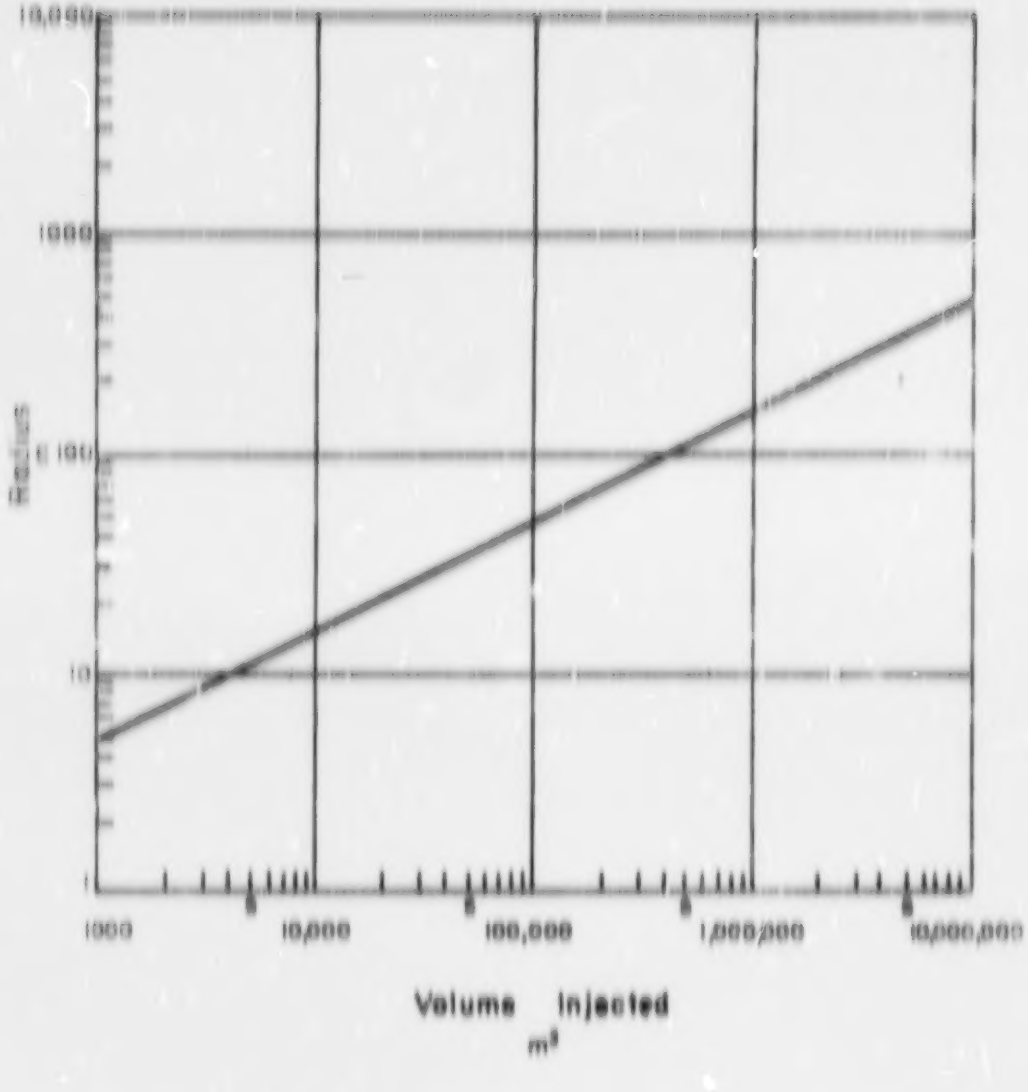


Figure 138 Radius of Invasion for well TX-45

[illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

[illegible]

III. GEOLOGIC INFORMATION

[illegible]

IV. WASTE CHARACTERISTICS

[illegible]

V. WELL DESIGN AND CONSTRUCTION REQUIREMENTS

[illegible]

VI. OPERATION CHARACTERISTICS

[illegible]

VII. MONITORING

[illegible]

MISCELLANEOUS

[illegible]

OPERATING COMPANY: [illegible]
ADDRESS [illegible]

OPERATIONAL STATUS: [illegible]
PERMIT STATUS: [illegible]
WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

Type of Waste Injected: [illegible]

Name, Age, and Depth of Injection Zone: [illegible]

III. GEOLOGIC INFORMATION

Geological Description of Rock Units Penetrated by Well:

Name	Age	Depth	Thickness	Lithology
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Description of Injection Unit:

	Injection Unit	Confining
[illegible]	[illegible]	[illegible]

Hydrology of Fresh Water Aquifers in Vicinity:

Name	Depth	Thickness	Lithology	Fluid Character
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Mineral Resources in Area: [illegible]

Location of Other Wells in the Affected Area: [illegible]

IV. WASTE CHARACTERISTICS

Chemical Description: [illegible]

Reaction with Surface Equipment: [illegible]

Degradability Level and Rate: [illegible]

Biological Level Before and After Injection: [illegible]

Pre-injection Waste Treatment: [illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

[illegible]

Type and Amount of Cement: [illegible]

Well Head Equipment: [illegible]

Subsurface Equipment: [illegible]

Completion Method: [illegible]

Plugging Record: [illegible]

Holding Tanks and Flow Lines: [illegible]

Total Cost of Construction: [illegible]

VI. OPERATING CHARACTERISTICS

Injection Rates: [illegible]

Injection Pressure: [illegible]

Operating History, and/or Problems: [illegible]

VII. MONITORING

Monitoring Devices and Data: [illegible]

Sampling Frequency and Water Quality Parameters Measured: [illegible]

Frequency of Measuring Water Levels and Hydrostatic Heads: [illegible]

Contingency Plan for Well Failure During Operation: [illegible]

Construction Requirements: [illegible]

Monitoring Requirements: [illegible]

Restrictions on Operation Imposed: [illegible]

MISCELLANEOUS

[illegible]

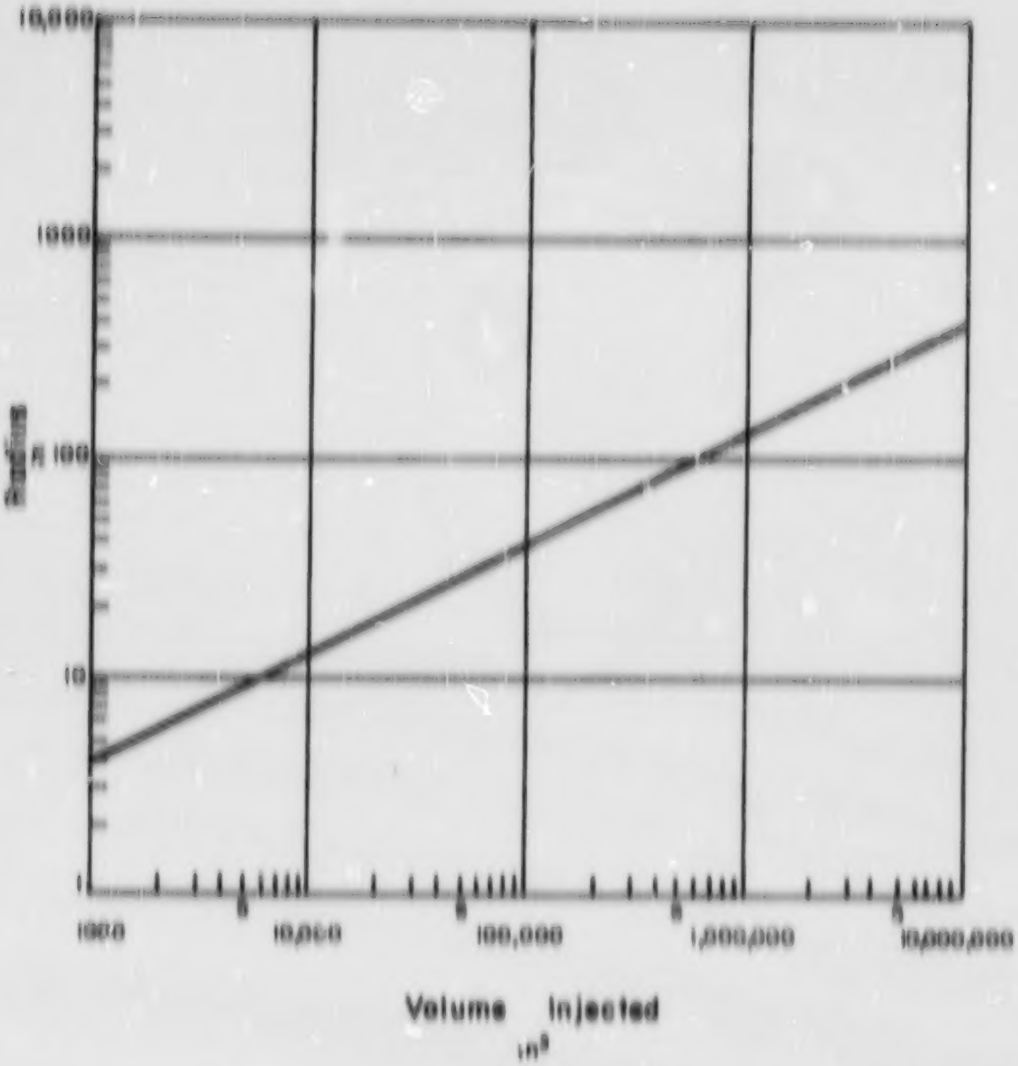


Figure 139 Radius of invasion for well TX-49

[redacted]

OPERATING COMPANY: [illegible]
ADDRESS: [illegible]

OPERATIONAL STATUS: [illegible] REGION NO.: [illegible]
PERMIT STATUS: [illegible] WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

[illegible]

III. GEOLOGIC INFORMATION

Geological Description of Rock Units Penetrated by Well:

Name	Age	Depth	Thickness	Lithology
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Description of Injection Unit:

[illegible]

IV. WASTE CHARACTERISTICS

[illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

[illegible]

Well Head Equipment: [illegible]

Subsurface Equipment: [illegible]

VI. OPERATING CHARACTERISTICS

[illegible]

VII. MONITORING

[illegible]

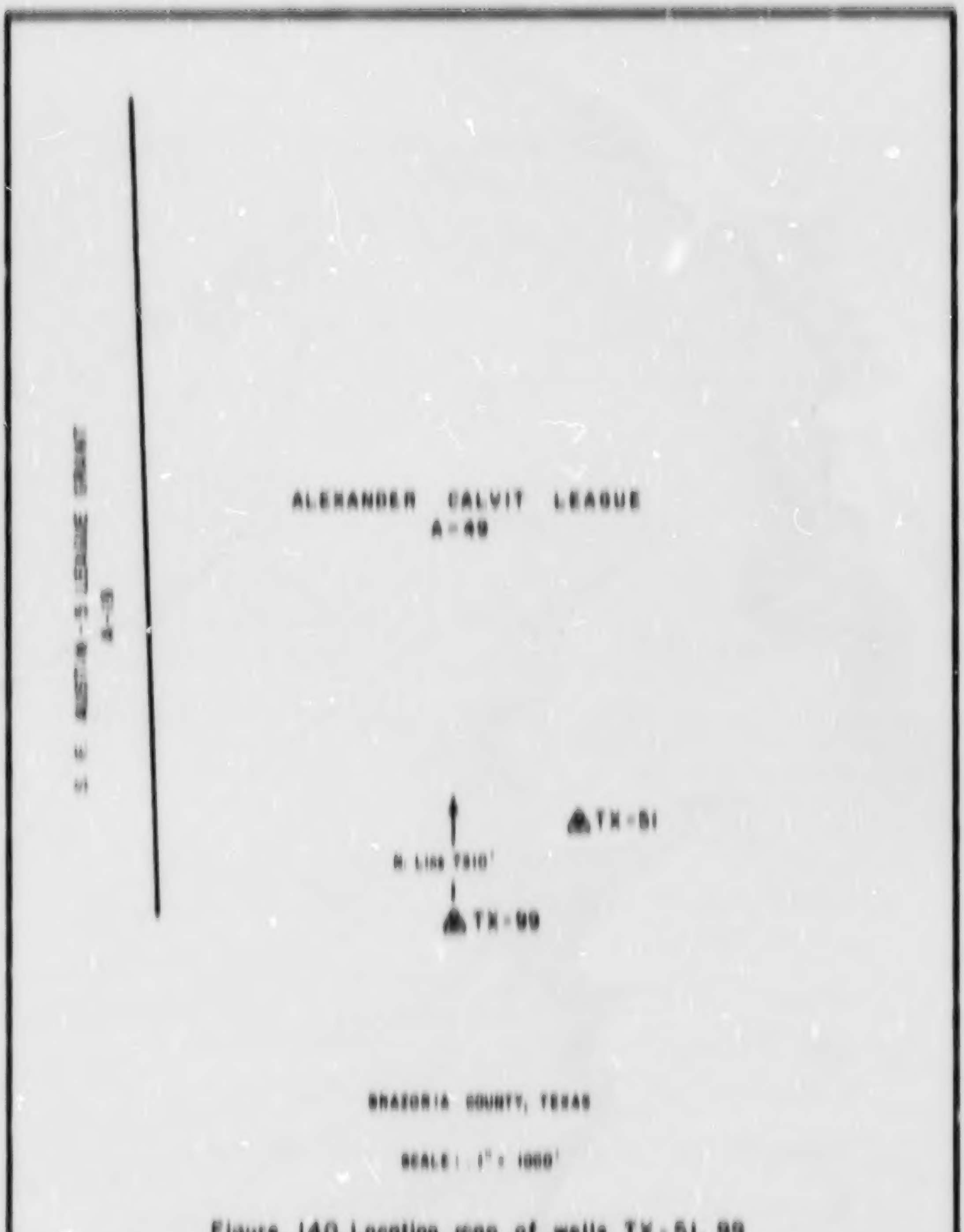


Figure 140 Location map of wells TX-51, 99

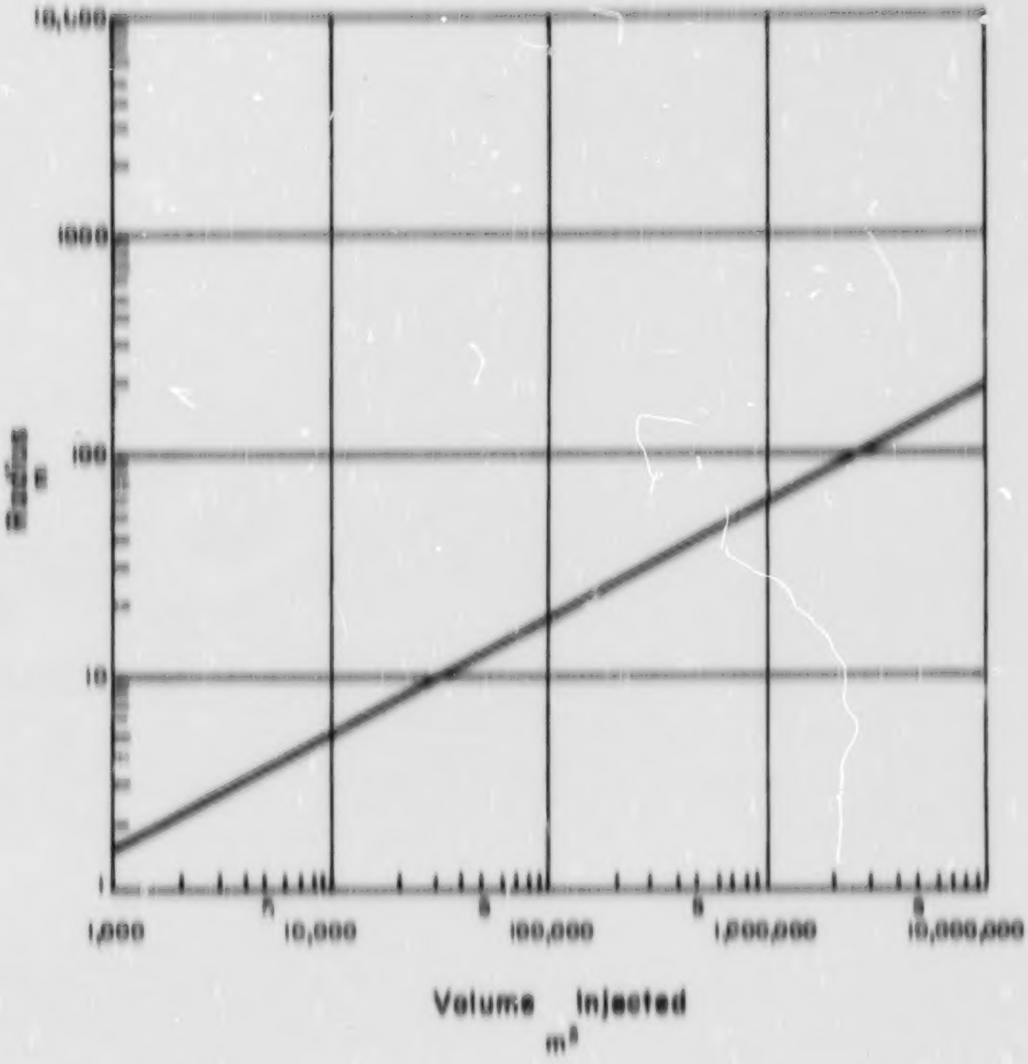


Figure 141 Radius of invasion for well TX-51

[redacted]

[redacted]

[redacted]

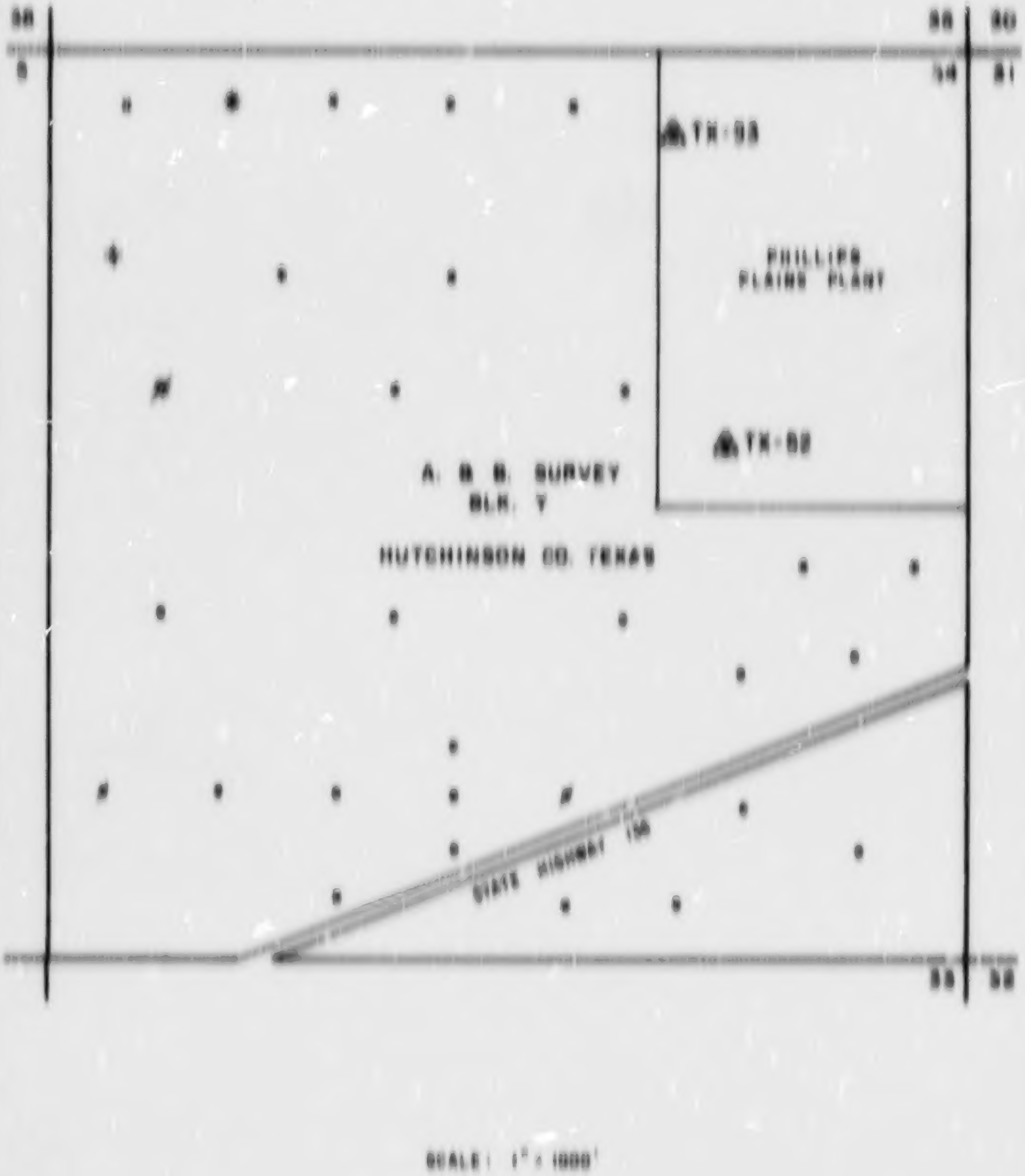
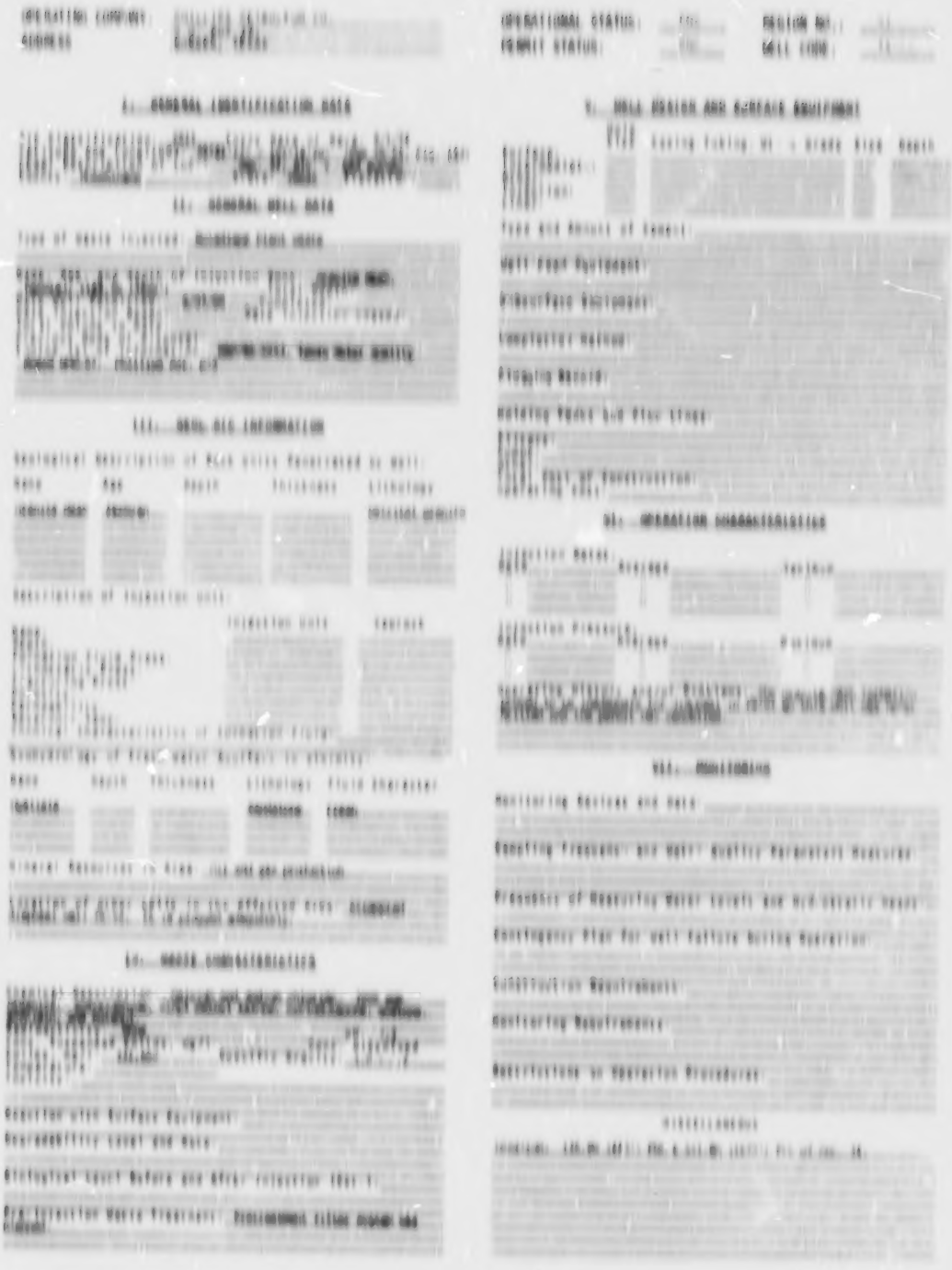


Figure 142 Location map of wells TX-52, 53



OPERATING COMPANY: [illegible]
ADDRESS: [illegible]

OPERATIONAL STATUS: [illegible] REGION NO.: [illegible]
PERMIT STATUS: [illegible] WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

Type of Waste Injected: [illegible]

Name, Age, and Depth of Injection Zone: [illegible]

III. GEOLOGIC INFORMATION

Geological Description of Rock Units Penetrated by Well:

Name	Age	Depth	Thickness	Lithology
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Description of Injection Unit:

	Injection Unit	Caprock
[illegible]	[illegible]	[illegible]

Name	Depth	Thickness	Lithology	Fluid Character
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Mineral Resources in Area: [illegible]

Location of other wells in the affected area: [illegible]

IV. WASTE CHARACTERISTICS

[illegible]

Reaction with Surface Equipment: [illegible]

Degradability Level and Rate: [illegible]

Biological Level Before and After Injection: [illegible]

Pre-Injection Waste Treatment: [illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

[illegible]

Type and Amount of Cement: [illegible]

Well Head Equipment: [illegible]

Subsurface Equipment: [illegible]

Completion Method: [illegible]

Plugging Record: [illegible]

Holding Tanks and Flow Lines: [illegible]

[illegible]

VI. OPERATION CHARACTERISTICS

Injection Rates: [illegible]

Injection Pressure: [illegible]

Operating History: [illegible]

VII. MONITORING

Monitoring Devices and Data: [illegible]

Sampling Frequency and Water Quality Parameters Measured: [illegible]

Frequency of Measuring Water Levels and Hydrostatic Heads: [illegible]

Contingency Plan for Well Failure During Operation: [illegible]

Construction Requirements: [illegible]

Monitoring Requirements: [illegible]

Restrictions on Operation Procedures: [illegible]

MISCELLANEOUS

[illegible]

OPERATING COMPANY: [illegible]
ADDRESS: [illegible]

OPERATIONAL STATUS: [illegible] REGION NO.: [illegible]
PERMIT STATUS: [illegible] WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

Type of Waste Injected: [illegible]

Name, Age, and Depth of Injection Zone: [illegible]

III. GEOLOGIC INFORMATION

Geological Description of Rock Units Penetrated by Well:

Name	Age	Depth	Thickness	Lithology
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Description of Injection Unit:

	Injection Unit	Caprock
[illegible]	[illegible]	[illegible]

Chemical Characteristics of Formation Fluid: [illegible]

Geohydrology of Fresh Water Aquifers in Vicinity:

Name	Depth	Thickness	Lithology	Fluid Character
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Mineral Resources in Area: [illegible]

IV. WASTE CHARACTERISTICS

Chemical Description: [illegible]

Reaction with Surface Equipment: [illegible]

Degradability Rate and Rate: [illegible]

Biological Level Before and After Injection: [illegible]

Pre-Injection Waste Treatment: [illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

[illegible]

Type and Amount of Cement: [illegible]

Subsurface Equipment: [illegible]

Completion Method: [illegible]

Drilling Tools and Rigs Used: [illegible]

VI. OPERATING CHARACTERISTICS

Injection Rates: [illegible]

Injection Pressure: [illegible]

Operating History and/or Problems: [illegible]

VII. MONITORING

Monitoring Devices and Data: [illegible]

Sampling Frequency and Water Quality Parameters Measured: [illegible]

Frequency of Measuring Water Levels and Hydrostatic Heads: [illegible]

Contingency Plan for Well Failure During Operation: [illegible]

Plugging and Abandonment: [illegible]

[illegible]

MISCELLANEOUS

[illegible]

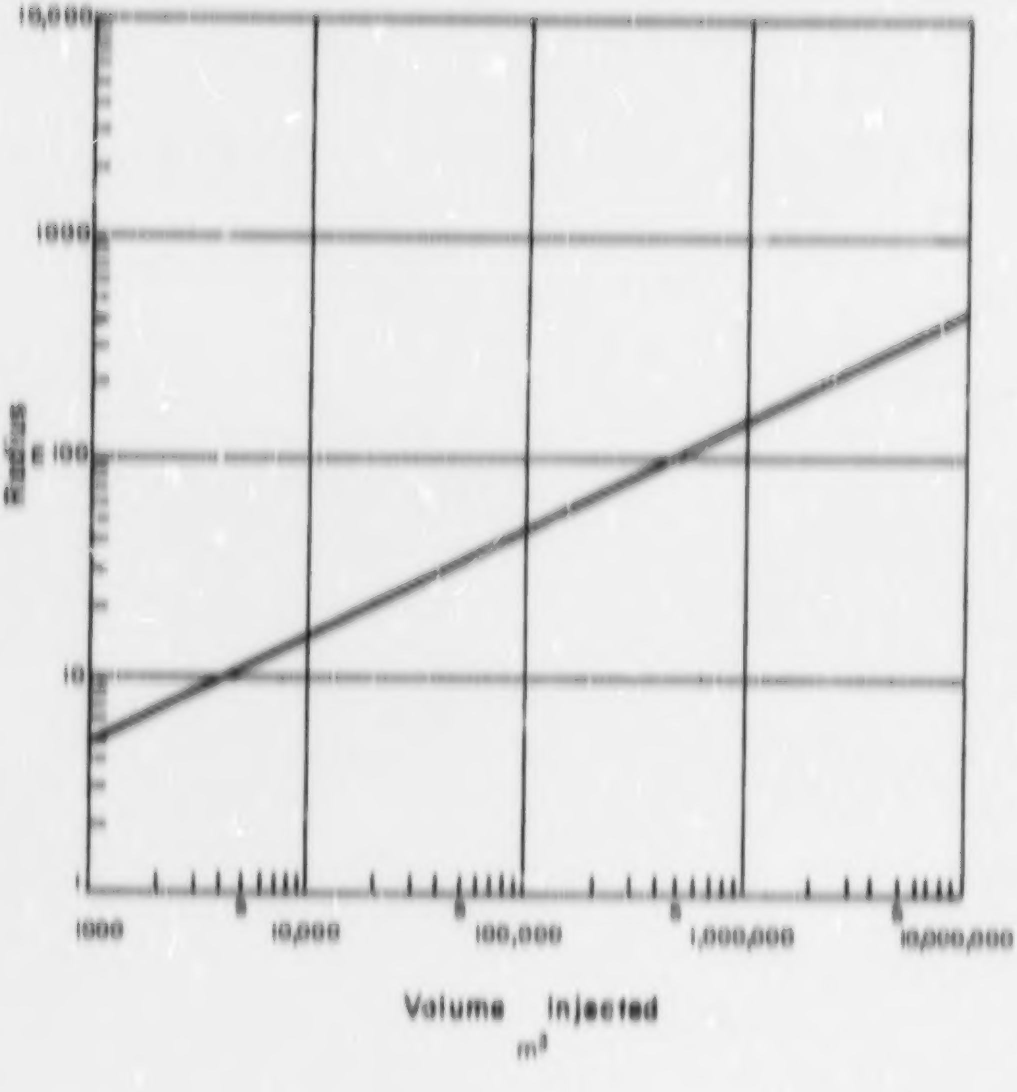


Figure 143 Radius of invasion for well TX-54

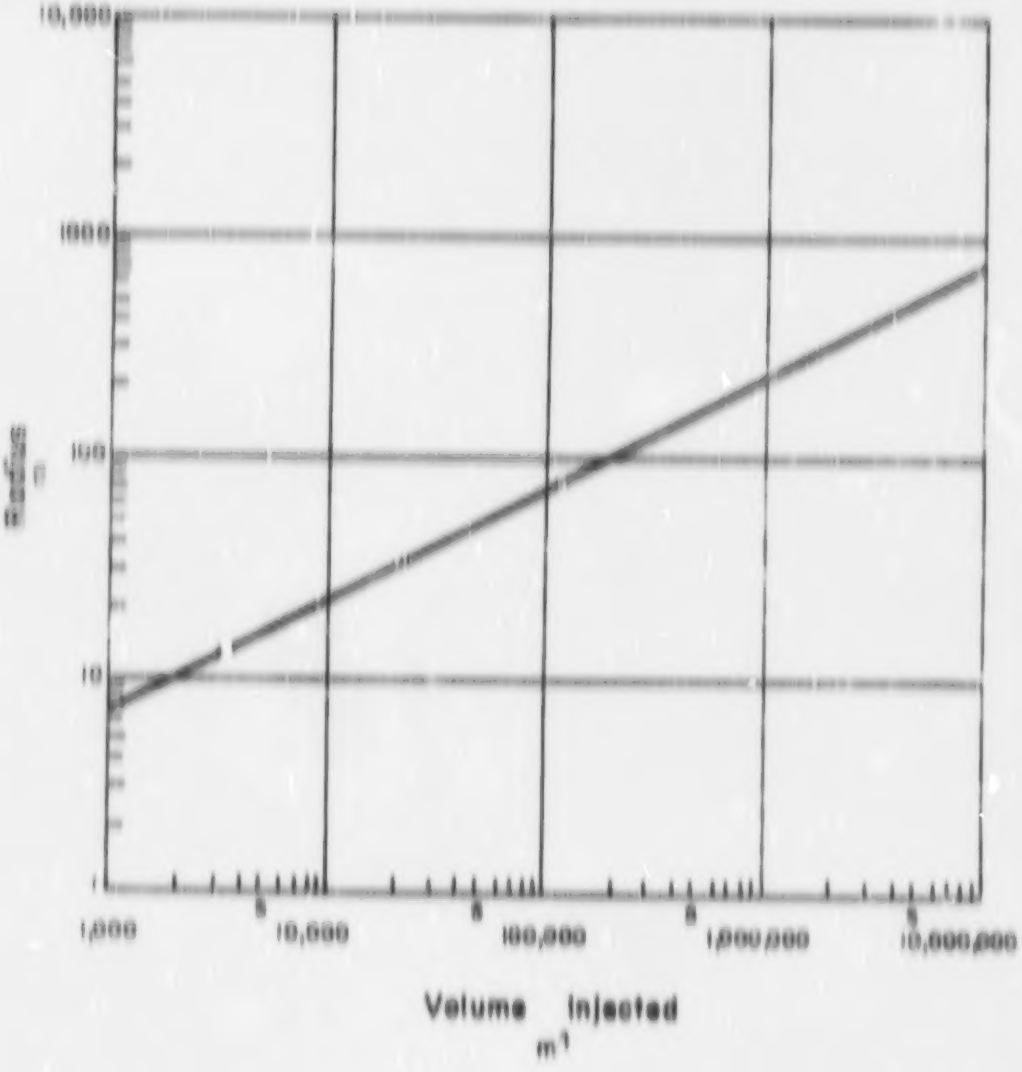


Figure 144 Radius of Invasion for well TX-55

OPERATING COMPANY:
ADDRESS:

OPERATIONAL STATUS:
PERMIT STATUS:
REGION NO.:
WELL CODE:

I. GENERAL IDENTIFICATION DATA

II. GENERAL WELL DATA

III. GEOLOGIC INFORMATION

IV. WASTE CHARACTERISTICS

V. WELL DESIGN AND SURFACE EQUIPMENT

VI. OPERATING CHARACTERISTICS

VII. MONITORING

REFERENCES

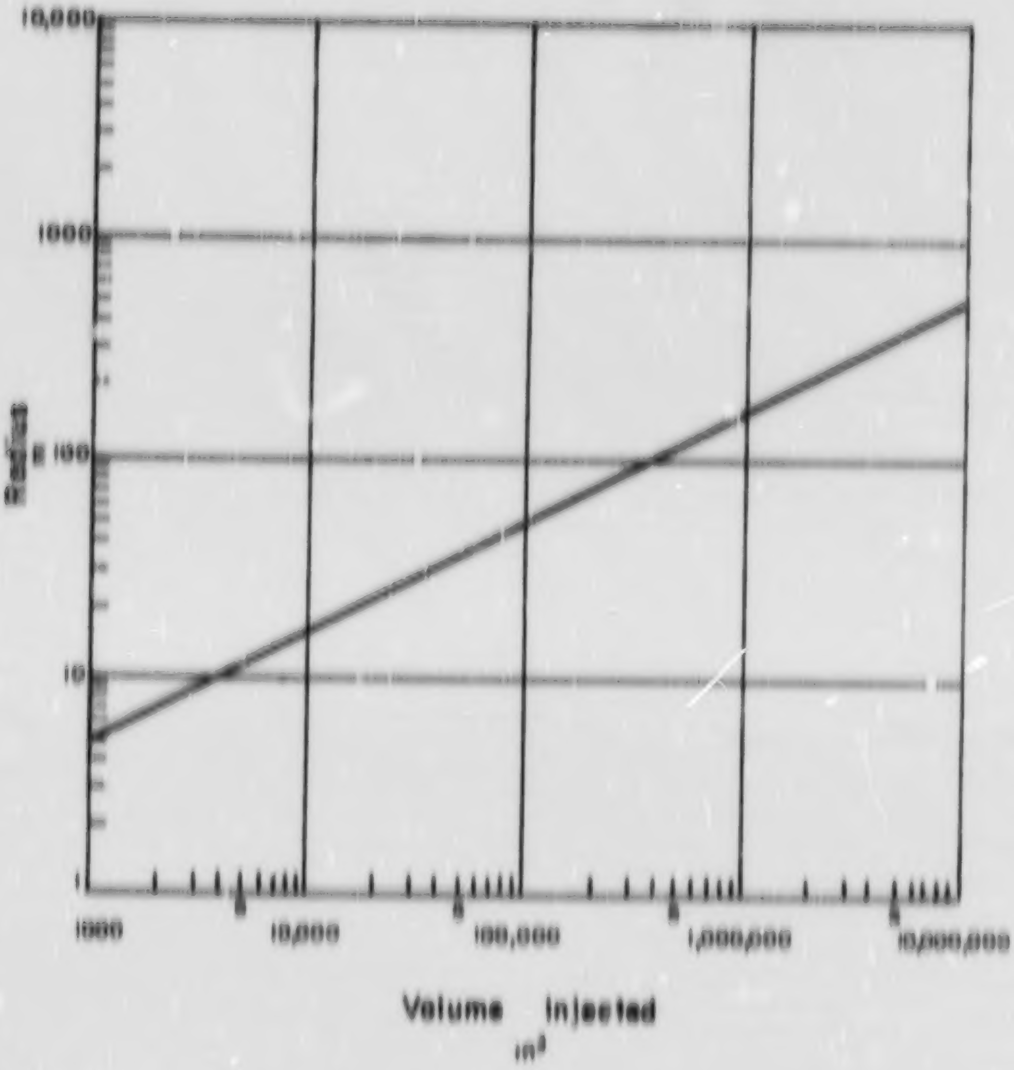


Figure 145 Radius of invasion for well TX-56

[redacted]

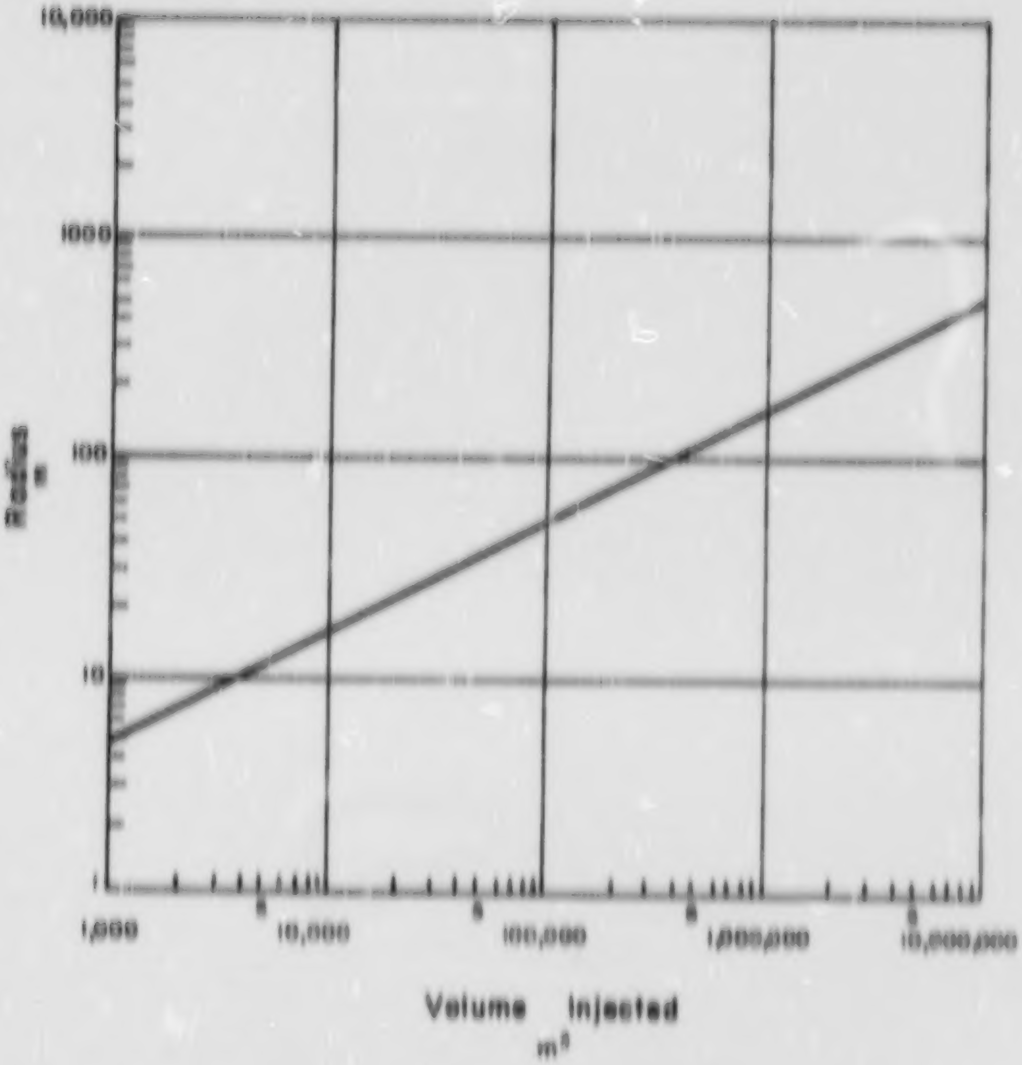


Figure 146 Radius of invasion for well TX-57

OPERATING COMPANY: [illegible]
ADDRESS: [illegible]

OPERATIONAL STATUS: [illegible] REGION NO.: [illegible]
PERMIT STATUS: [illegible] WELL C'OR: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

Type of Waste Injected: [illegible]

[illegible]

III. GEOLOGIC INFORMATION

[illegible]

IV. WASTE CHARACTERISTICS

[illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

	Hole Size	Casing/Tubing Wt. & Grade	Size	Depth
Surface:	[illegible]	[illegible]	[illegible]	[illegible]
Intermediate:	[illegible]	[illegible]	[illegible]	[illegible]
Other:	[illegible]	[illegible]	[illegible]	[illegible]
Injection:	[illegible]	[illegible]	[illegible]	[illegible]
Liner:	[illegible]	[illegible]	[illegible]	[illegible]

Type and Amount of Cement: [illegible]

Well Head Equipment: [illegible]

Subsurface Equipment: [illegible]

Completion Method: [illegible]

Plugging Records: [illegible]

Holding Tanks and Flow Lines: [illegible]

Filters: [illegible]

Pumps: [illegible]

Other: [illegible]

Total Cost of Construction: [illegible]

Operating Cost: [illegible]

VI. OPERATION CHARACTERISTICS

Injection Rates:

[illegible]

Injection Pressure:

[illegible]

[illegible]

VII. MONITORING

Monitoring Devices and Data: [illegible]

Sampling Frequency and Water Quality Parameters Measured: [illegible]

Frequency of Reporting Data: [illegible]

Contingency Plan for Well Failure During Operation: [illegible]

Abandonment Requirements: [illegible]

Restoring Requirements: [illegible]

Notifications to Regulatory Agencies: [illegible]

[illegible]

OPERATING COMPANY:

ADDRESS:

OPERATIONAL STATUS:

REGION NO.:

PERMIT STATUS:

WELL CODE:

I. GENERAL IDENTIFICATION DATA

II. GENERAL WELL DATA

III. GEOLOGIC INFORMATION

IV. WASTE CHARACTERISTICS

V. WELL DESIGN AND SURFACE EQUIPMENT

VI. OPERATING CHARACTERISTICS

VII. MONITORING

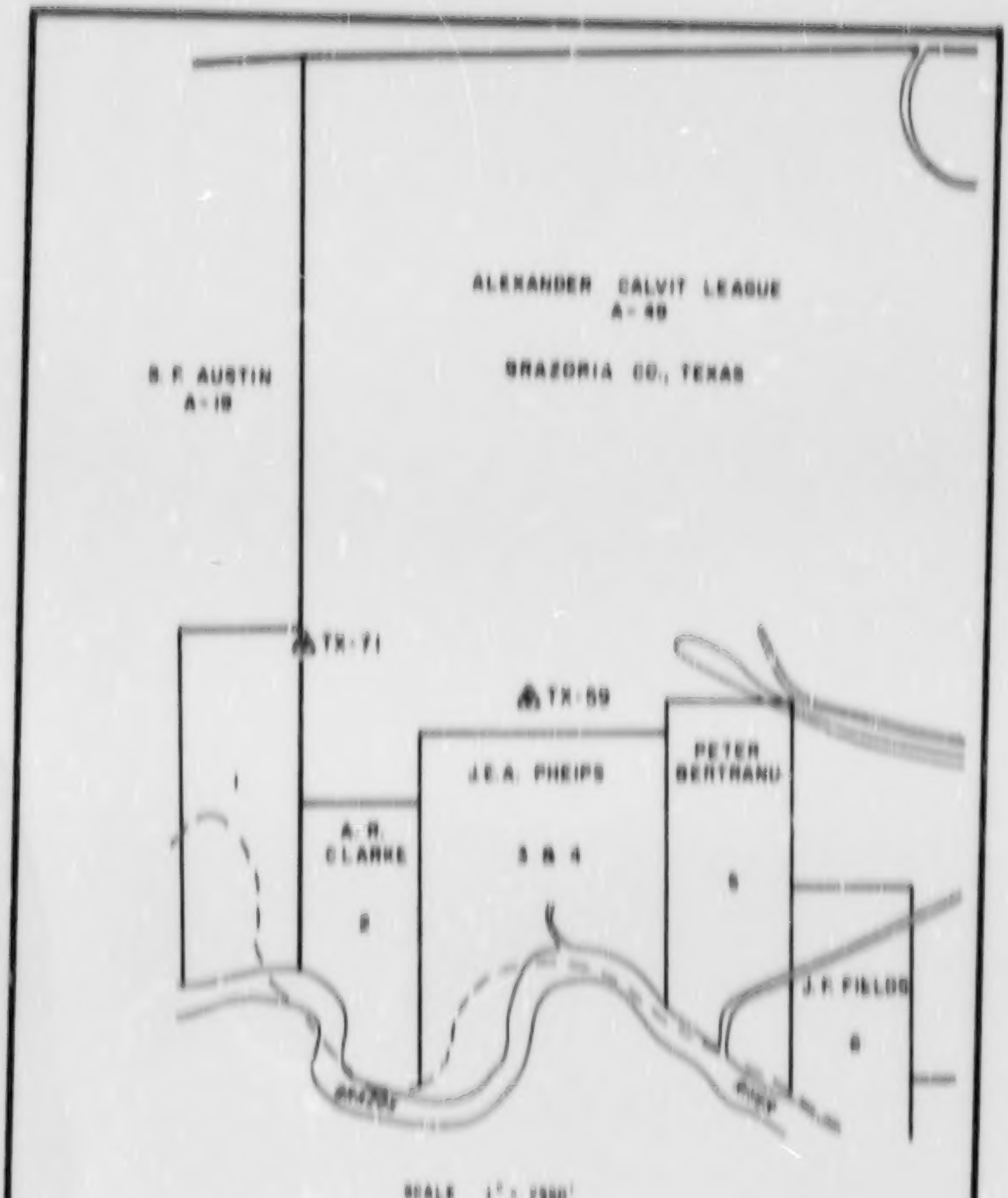


Figure 147 Location map of wells TX-69, 71

OPERATING COMPANY:
ADDRESS:

OPERATIONAL STATUS: REGION NO.:
PERMIT STATUS: WELL CODE:

I. GENERAL IDENTIFICATION DATA

II. GENERAL WELL DATA

III. GEOLOGIC INFORMATION

Name | Age | Depth | Thickness | Lithology

Mineral Resources in Area:

Location of other wells in the affected area:

IV. WASTE CHARACTERISTICS

Physical Description:

Reaction with Surface Equipment:

Pre-Injection Waste Treatment:

V. WELL DESIGN AND SURFACE EQUIPMENT

Type and Amount of Cement:

Well Head Equipment:

Subsurface Equipment:

Completion Method:

Plugging Record:

Holding Tanks and Flow Lines:

VI. OPERATING CHARACTERISTICS

Injection Rates:

Injection Pressure:

VII. MONITORING

Monitoring Devices and Data:

Sampling Frequency and Water Quality Parameters Measured:

Frequency of Measuring Water Levels and Hydrostatic Heads:

Contingency Plan for Well Failure During Operation:

Construction Requirements:

Monitoring Requirements:

Restrictions on Operation Procedures:

REFERENCES

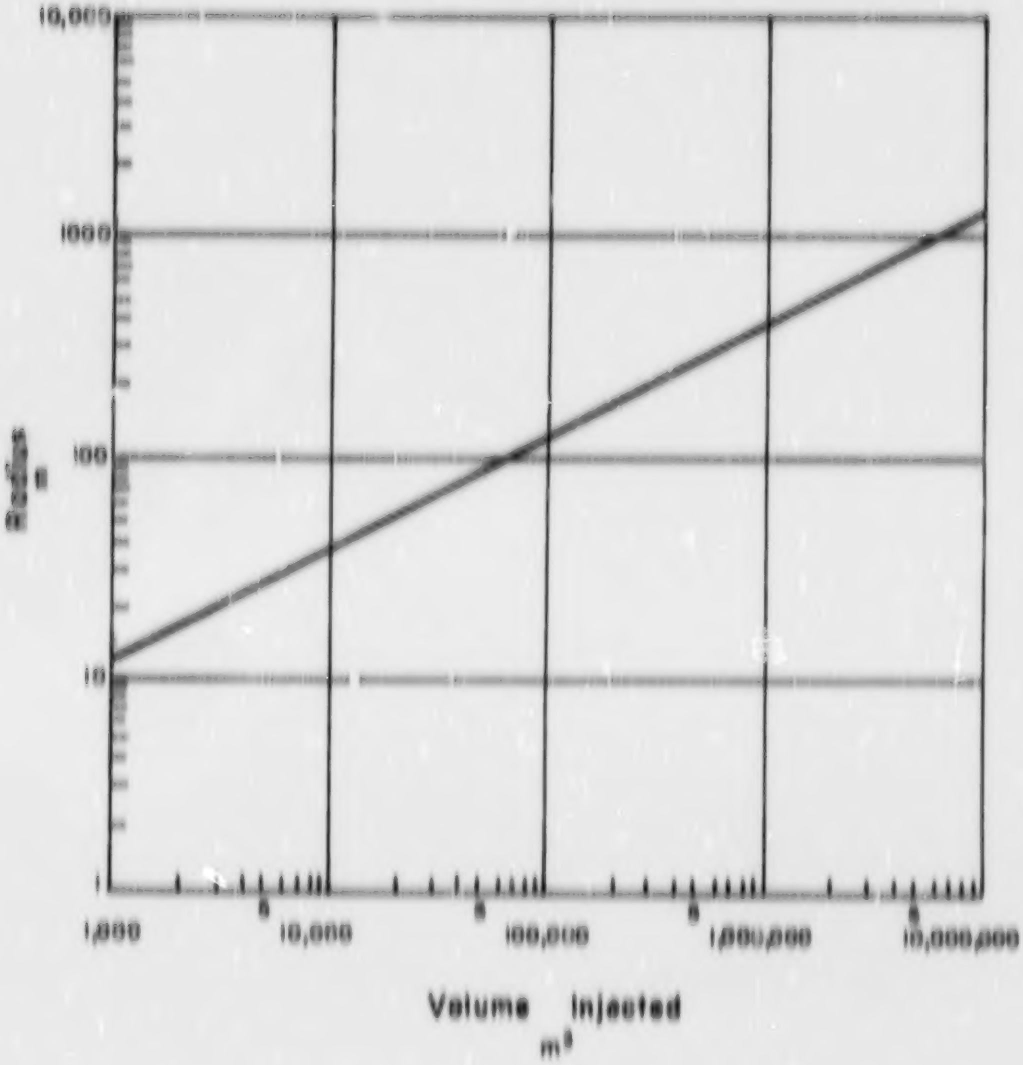


Figure 148 Radius of invasion for well TX-R1

OPERATING COMPANY [illegible]
ADDRESS [illegible]

OPERATIONAL STATUS: [illegible] REGION NO.: [illegible]
PERMIT STATUS: [illegible] WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

[illegible]

III. GEOLOGIC INFORMATION

[illegible]

IV. WASTE CHARACTERISTICS

[illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

[illegible]

Type and Amount of Cement: [illegible]

Well Head Equipment: [illegible]

Subsurface Equipment: [illegible]

Completion Method: [illegible]

Plugging Record: [illegible]

[illegible]

VI. OPERATING CHARACTERISTICS

[illegible]

VII. MONITORING

Monitoring Devices and Data: [illegible]

Sampling Frequency and Water Quality Parameters Measured: [illegible]

Frequency of Measuring Water Levels and Hydrostatic Head: [illegible]

Contingency Plan for Well Failure During Operation: [illegible]

Construction Requirements: [illegible]

Monitoring Requirements: [illegible]

Restrictions on Operation Procedures: [illegible]

MISCELLANEOUS

[illegible]

OPERATING COMPANY: [illegible]
ADDRESS: [illegible]

OPERATIONAL STATUS: [illegible] REGION NO.: [illegible]
PERMIT STATUS: [illegible] WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

[illegible]

III. [illegible] INFORMATION

[illegible]

IV. WASTE CHARACTERISTICS

[illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

Casing-Tubing [illegible]

[illegible]

Well Head Equipment: [illegible]

Subsurface Equipment: [illegible]

[illegible]

VI. OPERATION CHARACTERISTICS

[illegible]

VII. [illegible]

[illegible]

[illegible]

[redacted]

[illegible]

OPERATIONAL STATUS: [illegible] REGION NO.: [illegible]
PERMIT STATUS: [illegible] WELL I.D.: [illegible]

[illegible]

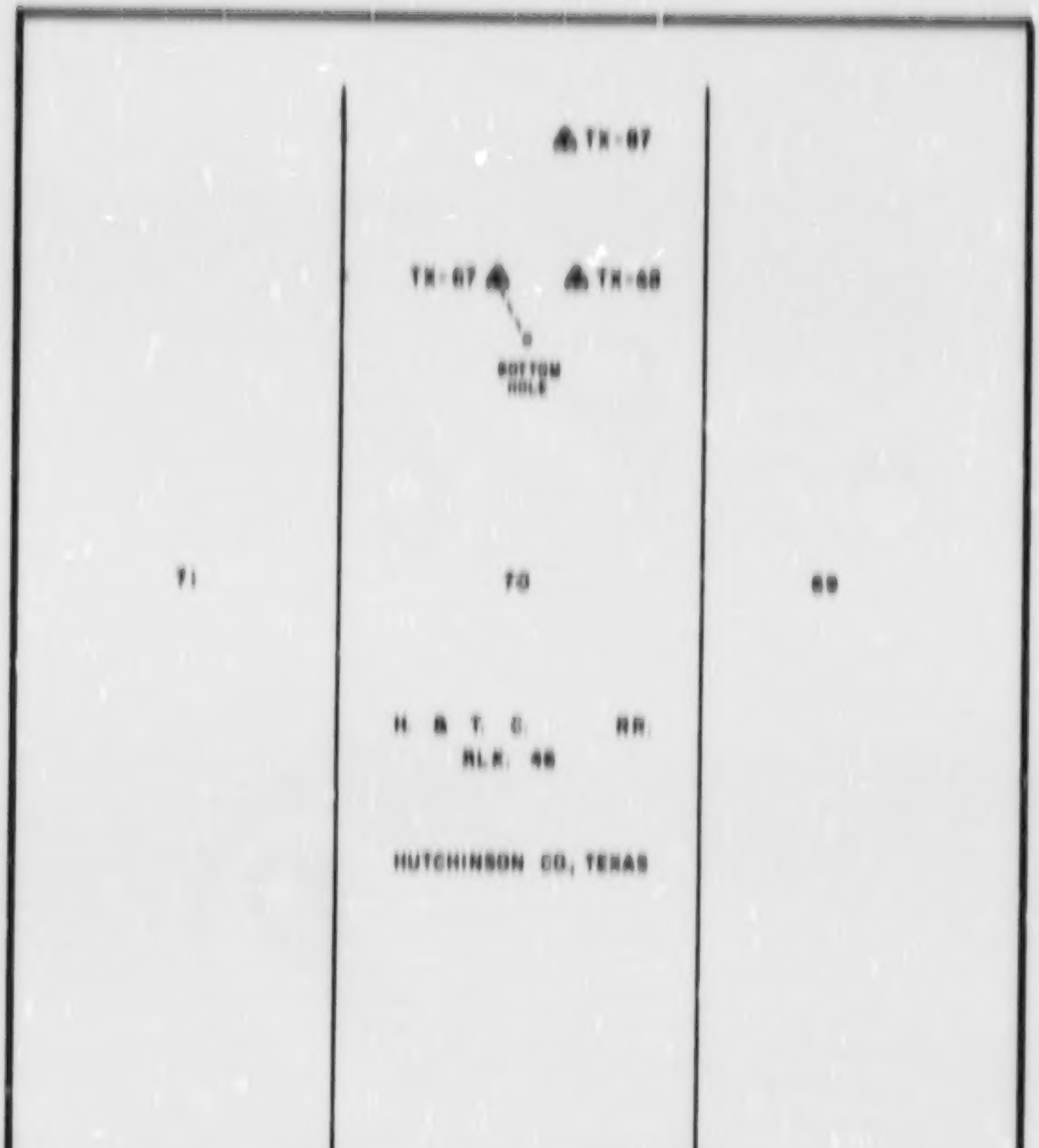


Figure 149 Location map of wells TX-67, 68, 87

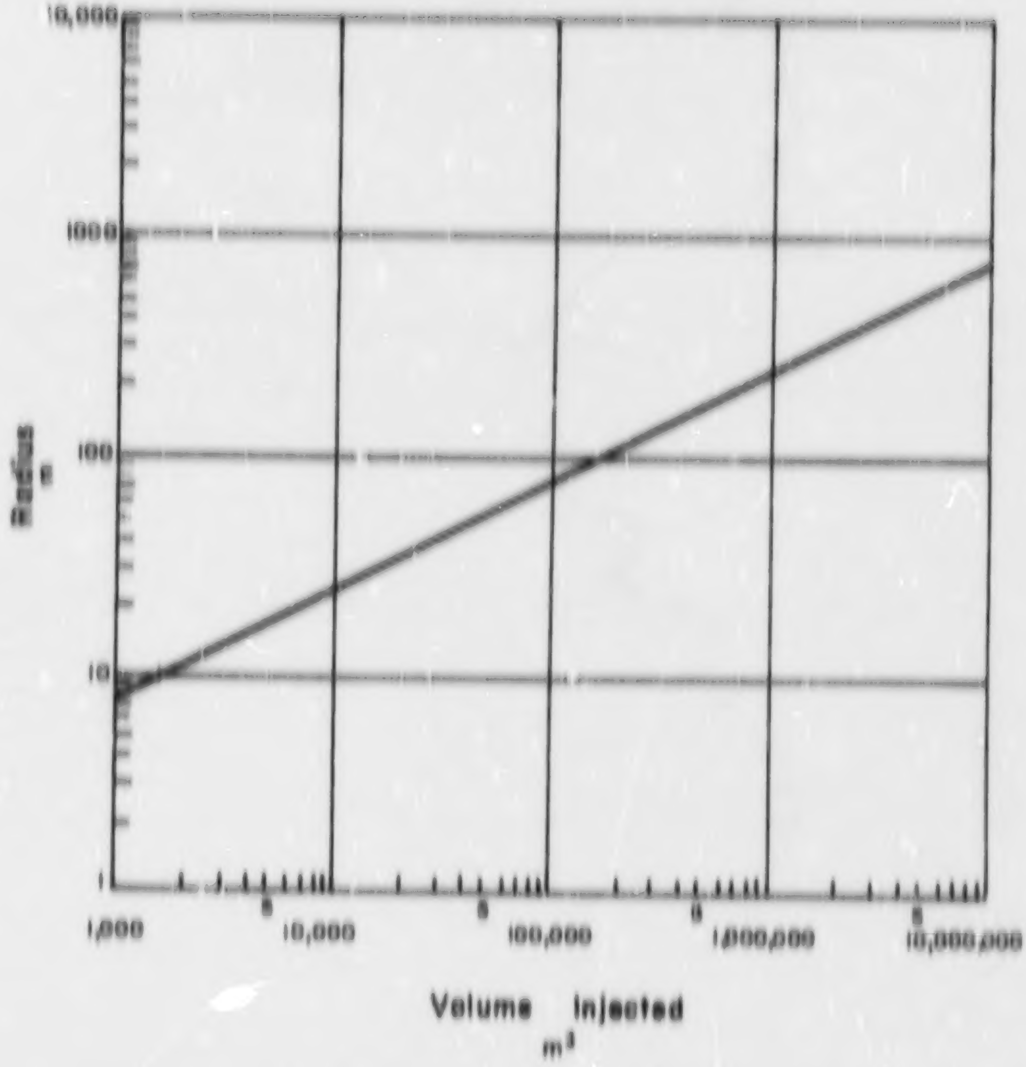


Figure 150 Radius of invasion for well TX-69

Figure 151 Location map of well TX-70

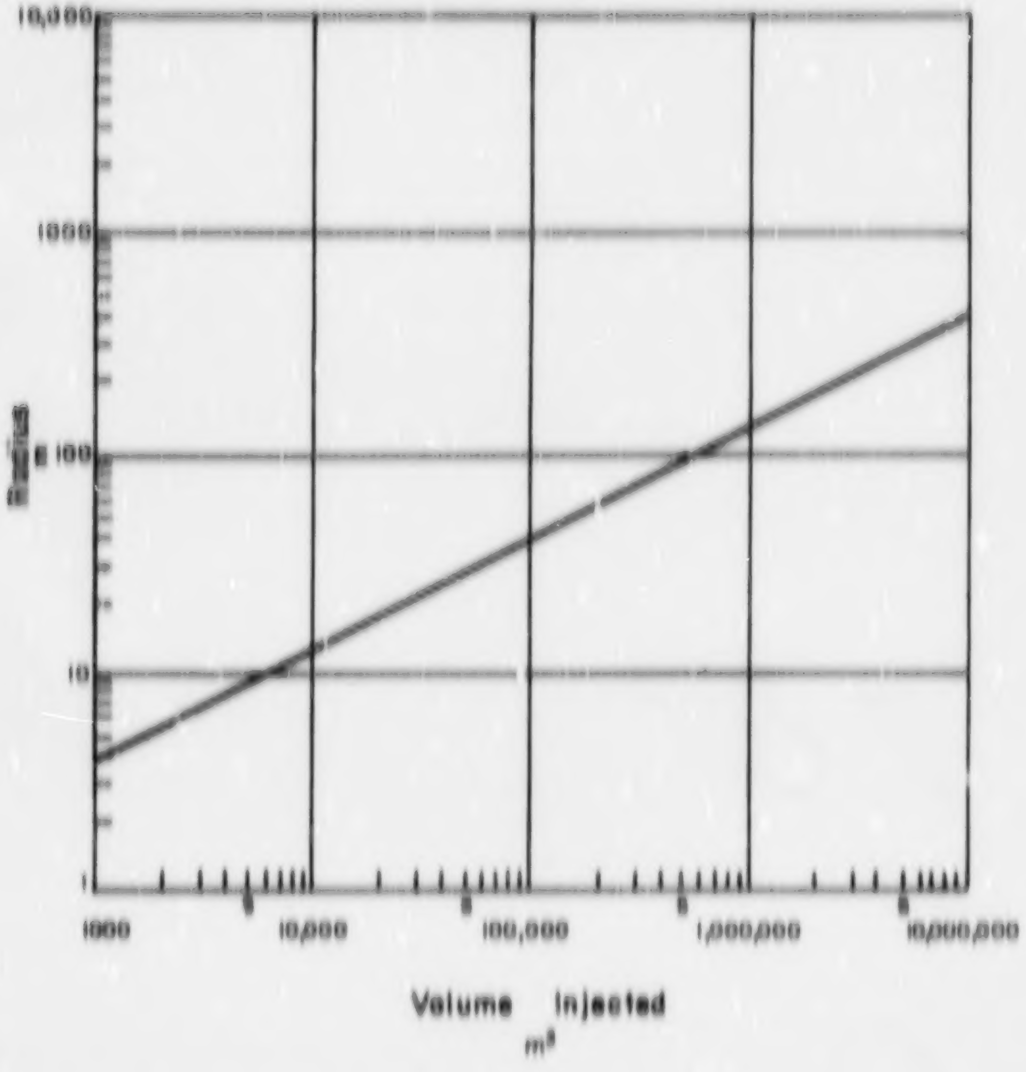


Figure 152 Radius of invasion for well TX-70

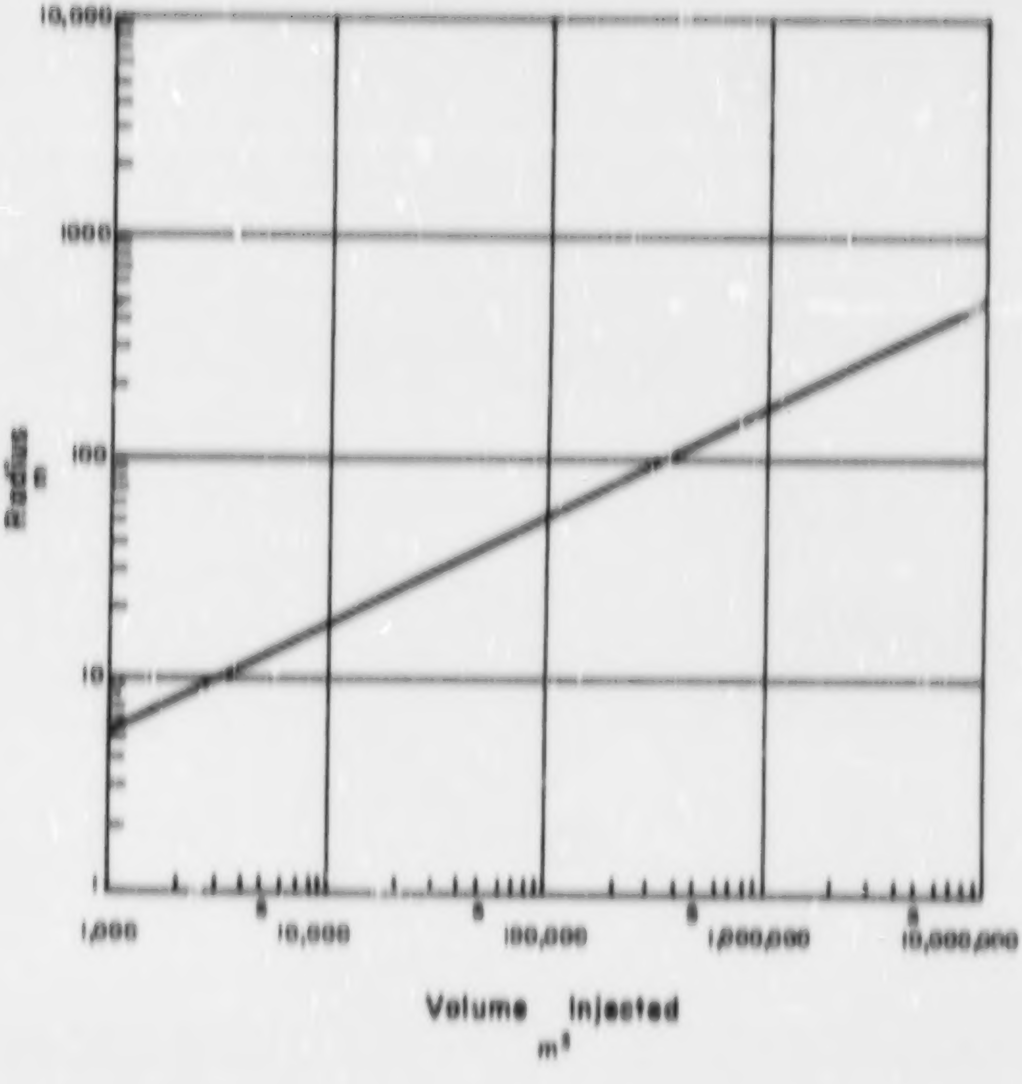


Figure 153 Radius of invasion for well TX-71

[illegible]

[illegible]

[illegible]

OPERATING COMPANY: [illegible]
ADDRESS [illegible]

OPERATIONAL STATUS: [illegible] REGION NO.: [illegible]
PERMIT STATUS: [illegible] WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

Type of Waste Injected: [illegible]

Name, Age, and Depth of Injection Zone: [illegible]

[illegible]

III. GEOLOGIC INFORMATION

Geological Description of Rock Units Penetrated by Well:

[illegible]

Description of Injection Unit:

[illegible]

Subsurface Fresh Water Aquifers: [illegible]

[illegible]

IV. WASTE CHARACTERISTICS

[illegible]

Reaction with Surface Equipment: [illegible]

Degradability Level and Rate: [illegible]

Biological Level Before and After Injection: [illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

[illegible]

Type and Source of Cement: [illegible]

Well Head Equipment: [illegible]

Subsurface Equipment: [illegible]

Completion Method: [illegible]

Plugging Record: [illegible]

Existing Tanks and Pipe Sizes: [illegible]

VI. OPERATING CHARACTERISTICS

Injection Rates: [illegible]

Injection Pressure: [illegible]

[illegible]

VII. MONITORING

Monitoring Devices and Data: [illegible]

Sampling Frequency and Water Quality Parameters Measured: [illegible]

Frequency of Measuring Water Levels and Hydrostatic Heads: [illegible]

Contingent Plan for Well Failure During Operation: [illegible]

Injection Requirements: [illegible]

Monitoring Requirements: [illegible]

Restrictions on Operation Procedures: [illegible]

MISCELLANEOUS

[illegible]

Figure 154 Location map of well TX-73

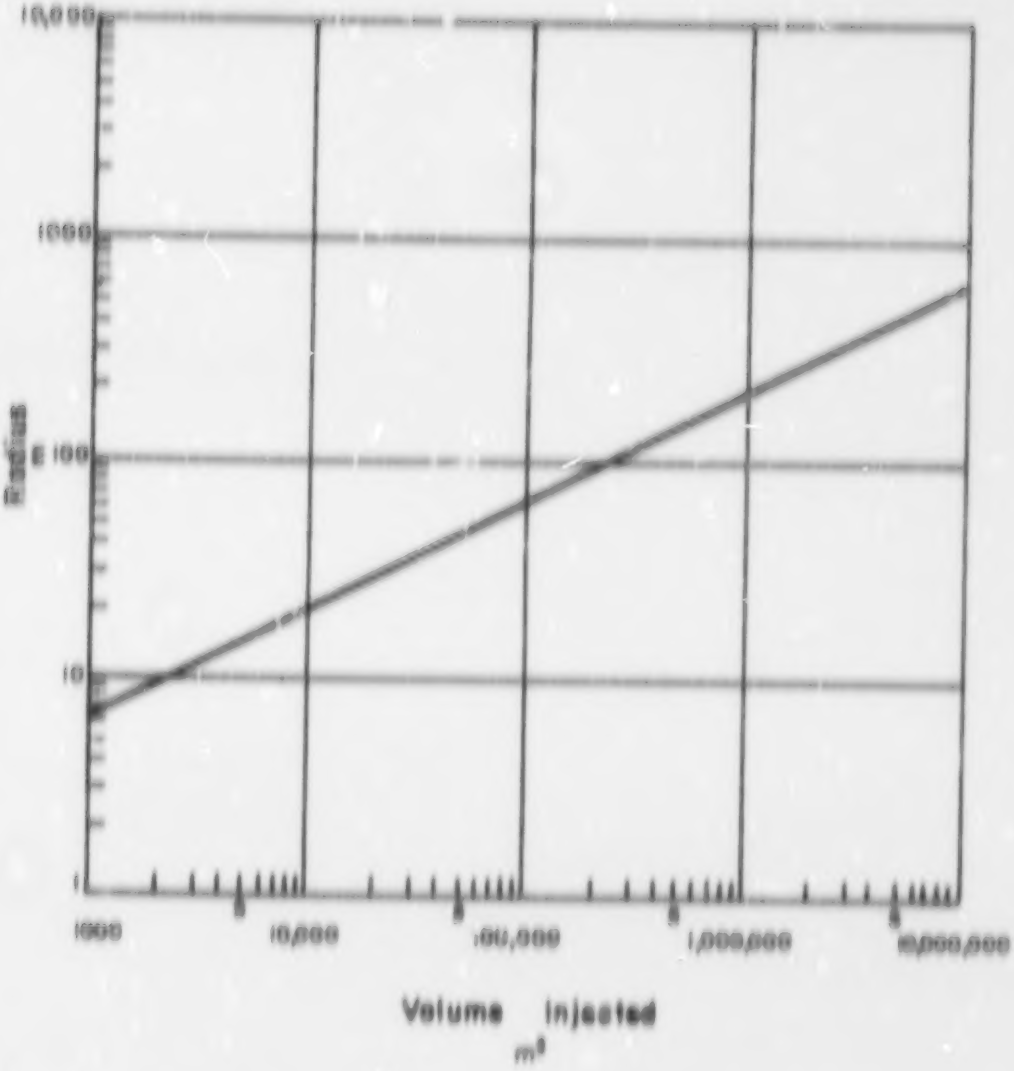


Figure 155 Radius of invasion for well TX-73

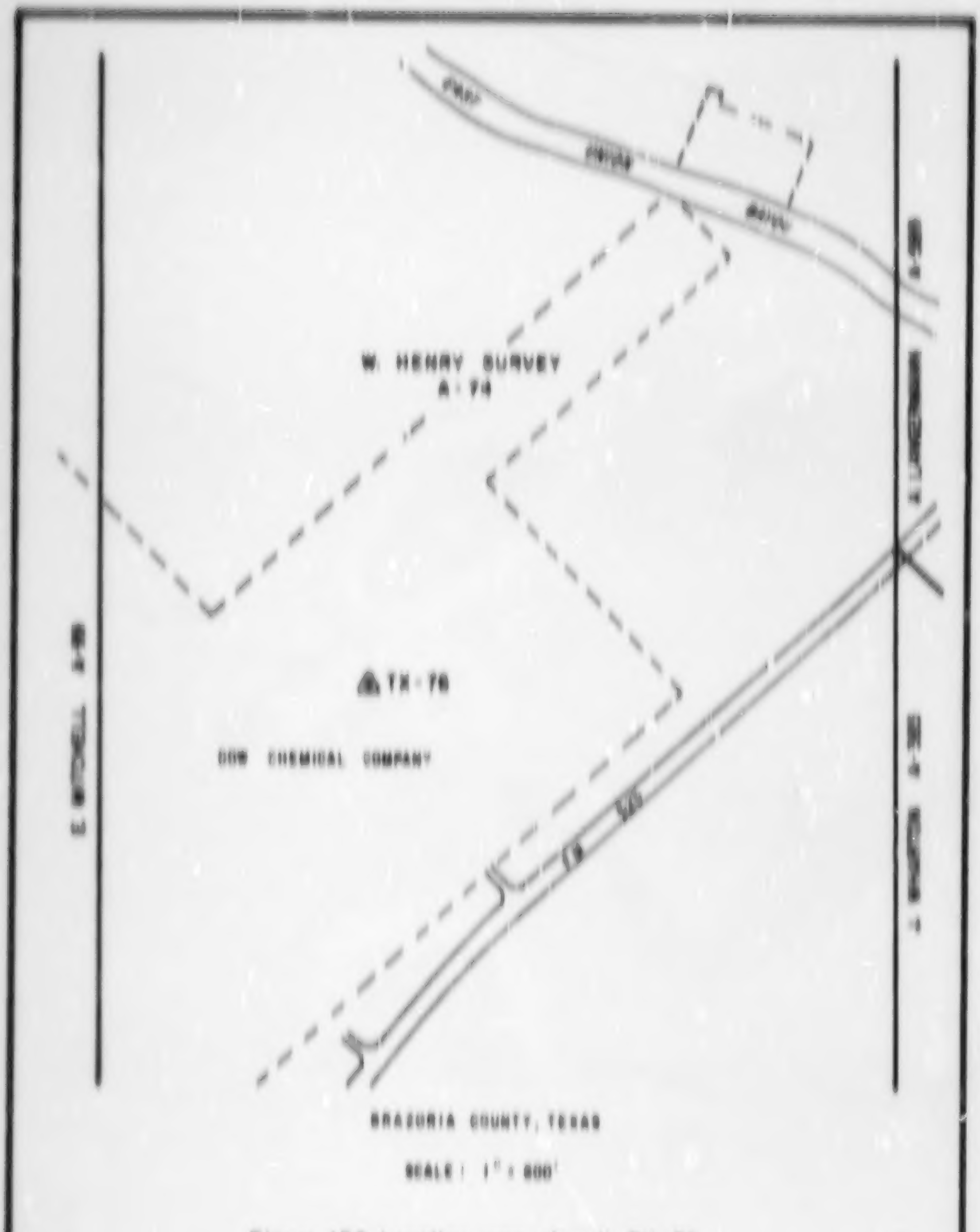


Figure 156 Location map of well TX-76

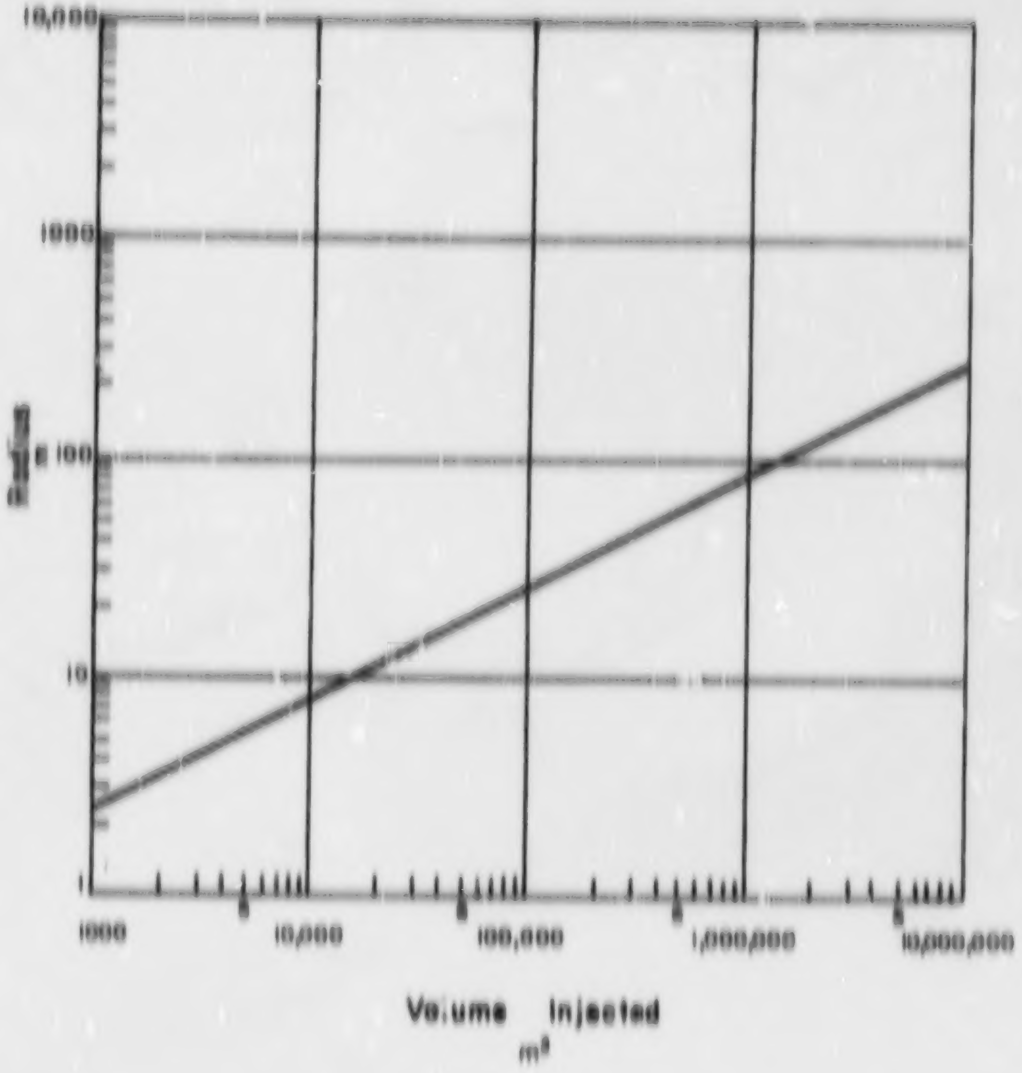


Figure 157 Radius of invasion for well TX-76

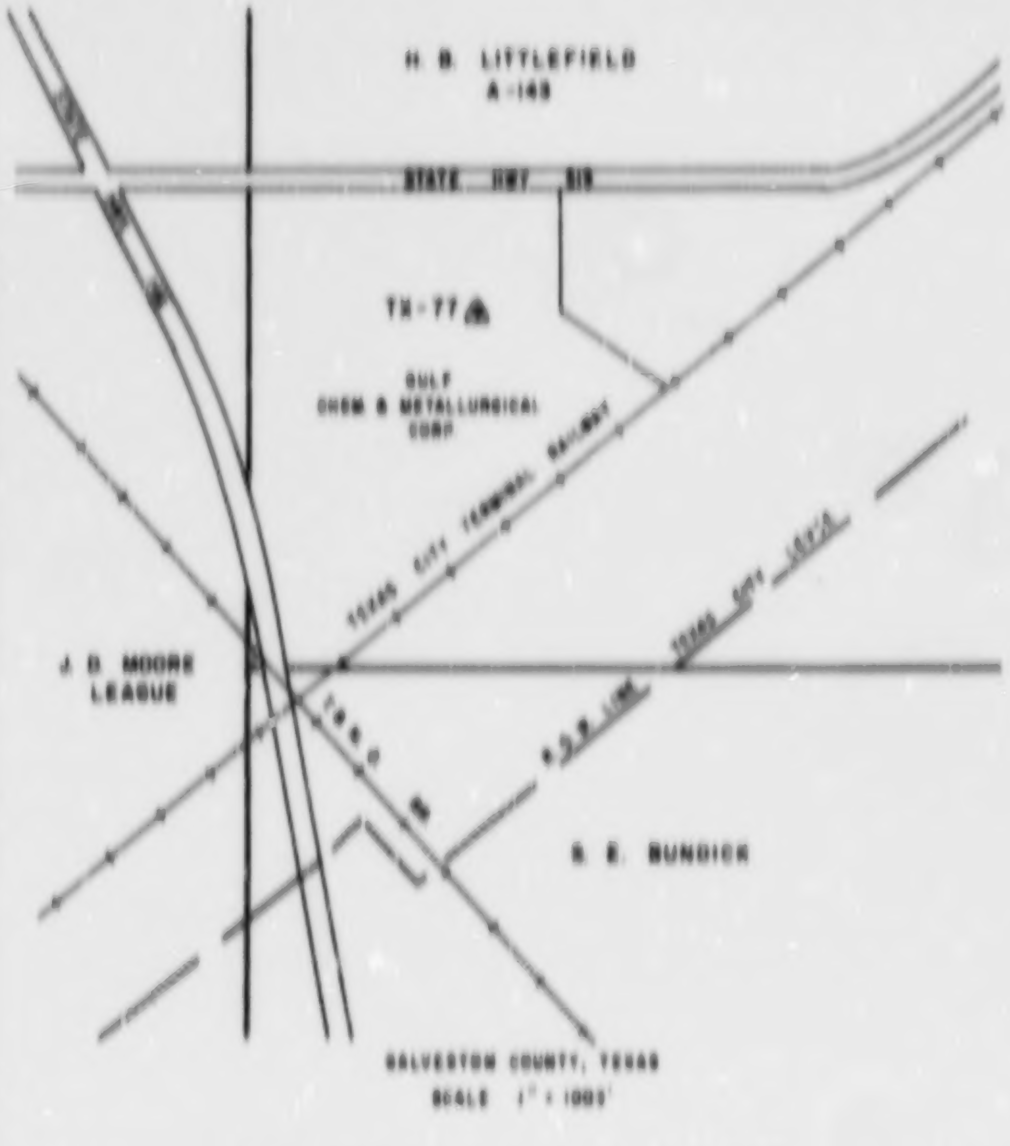


Figure 158 Location map of well TX-77

[redacted]

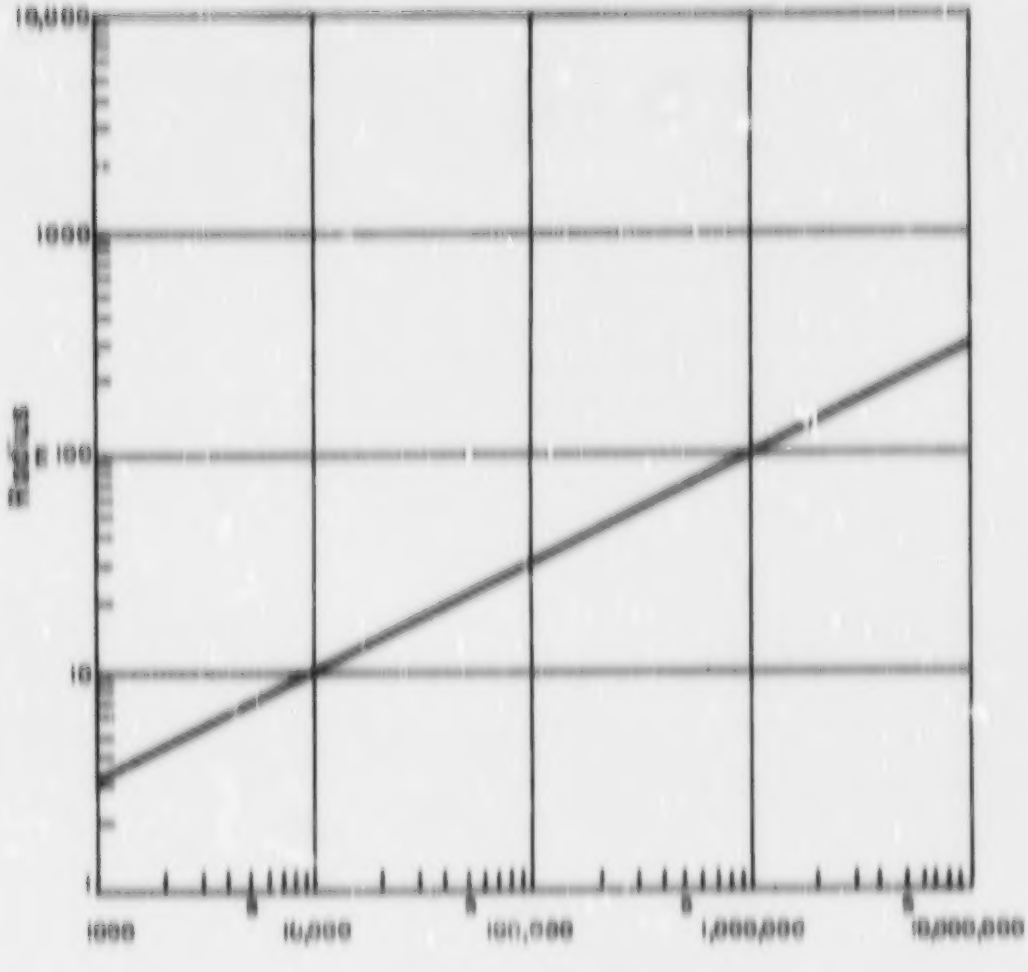


Figure 159 Radius of invasion for well TX-78

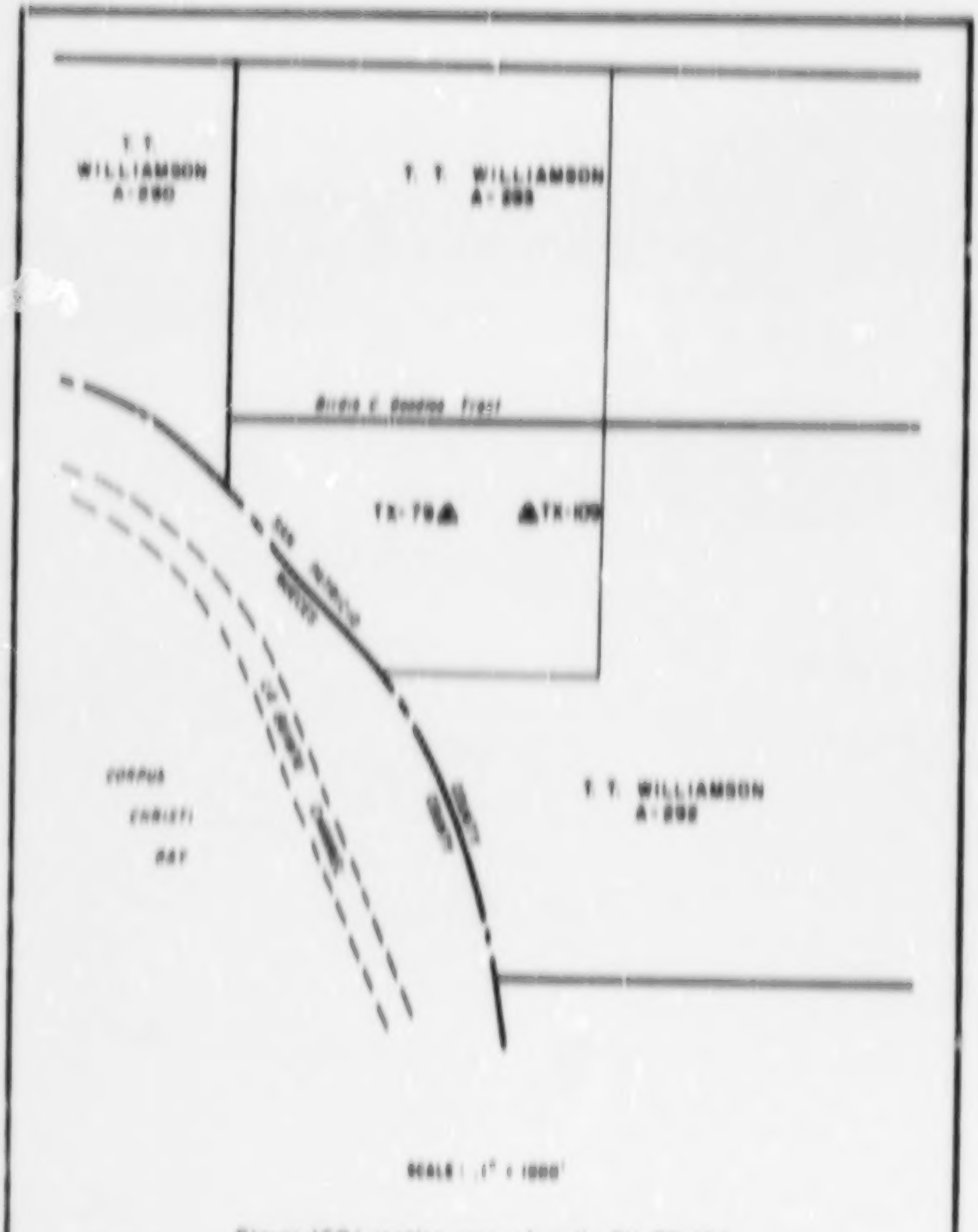


Figure 160 Location map of wells TX-79, 109

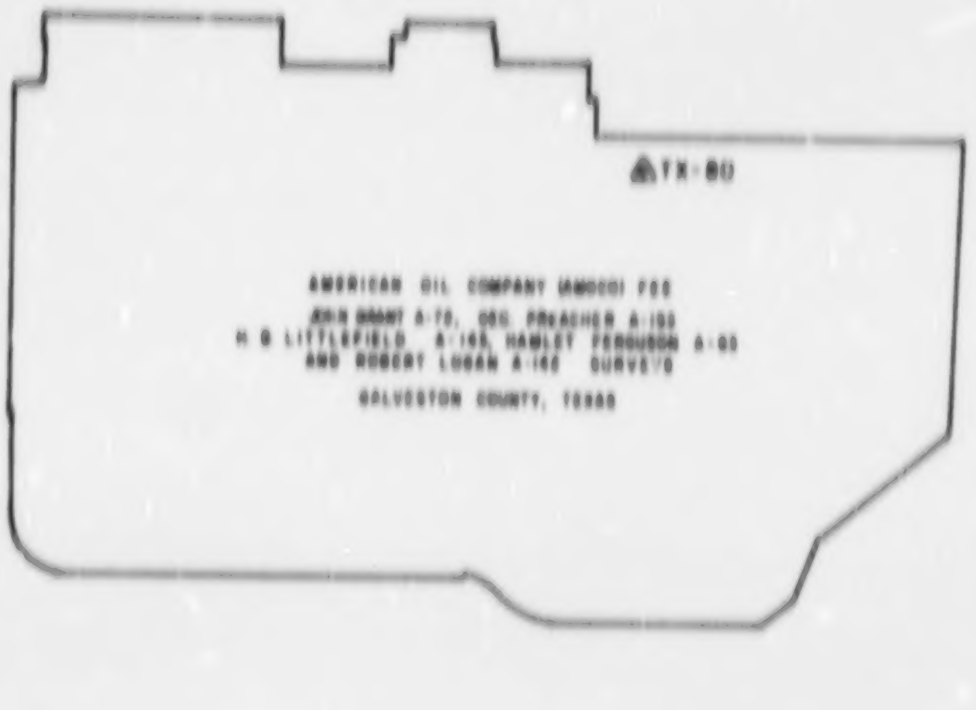


Figure 161 Location map of well TX-80

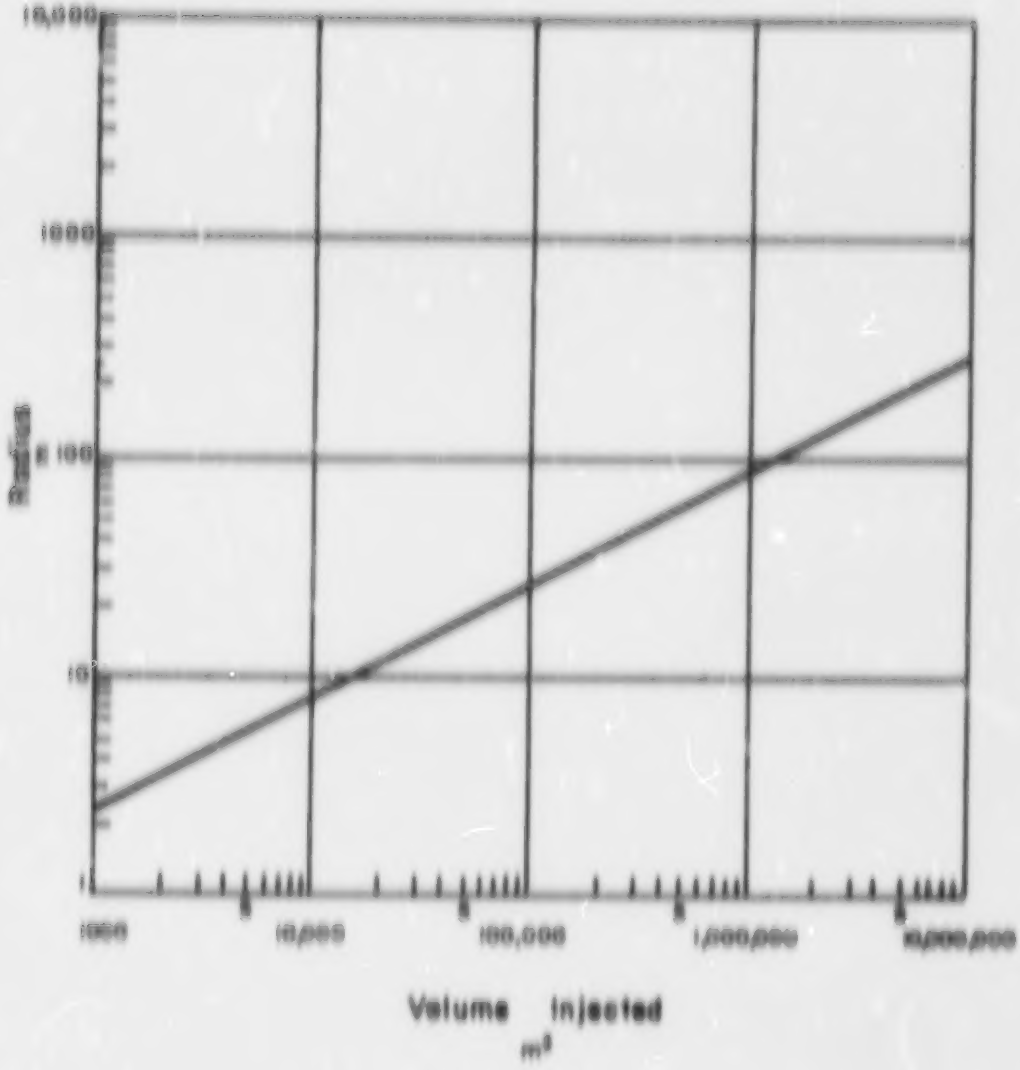


Figure 162 Radius of invasion for well TX-80

[redacted]

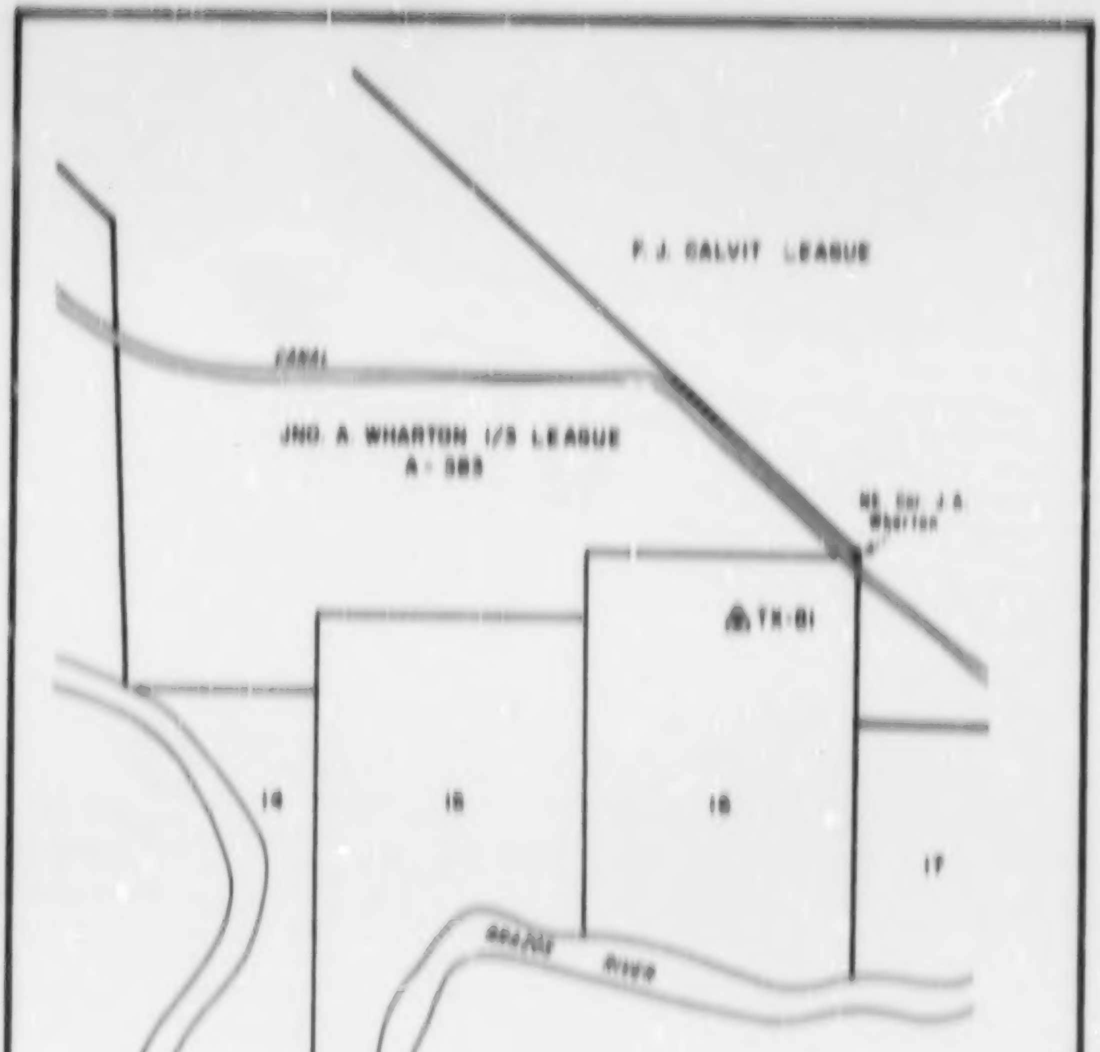


Figure 165 Location map of well TX-81

OPERATING COMPANY: [illegible]
ADDRESS: [illegible]

OPERATIONAL STATUS: [illegible] REGION NO: [illegible]
PERMIT STATUS: [illegible] WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

[illegible]

III. GEOLOGIC INFORMATION

[illegible]

IV. WASTE CHARACTERISTICS

[illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

[illegible]

VI. OPERATING CHARACTERISTICS

[illegible]

VII. MONITORING

[illegible]

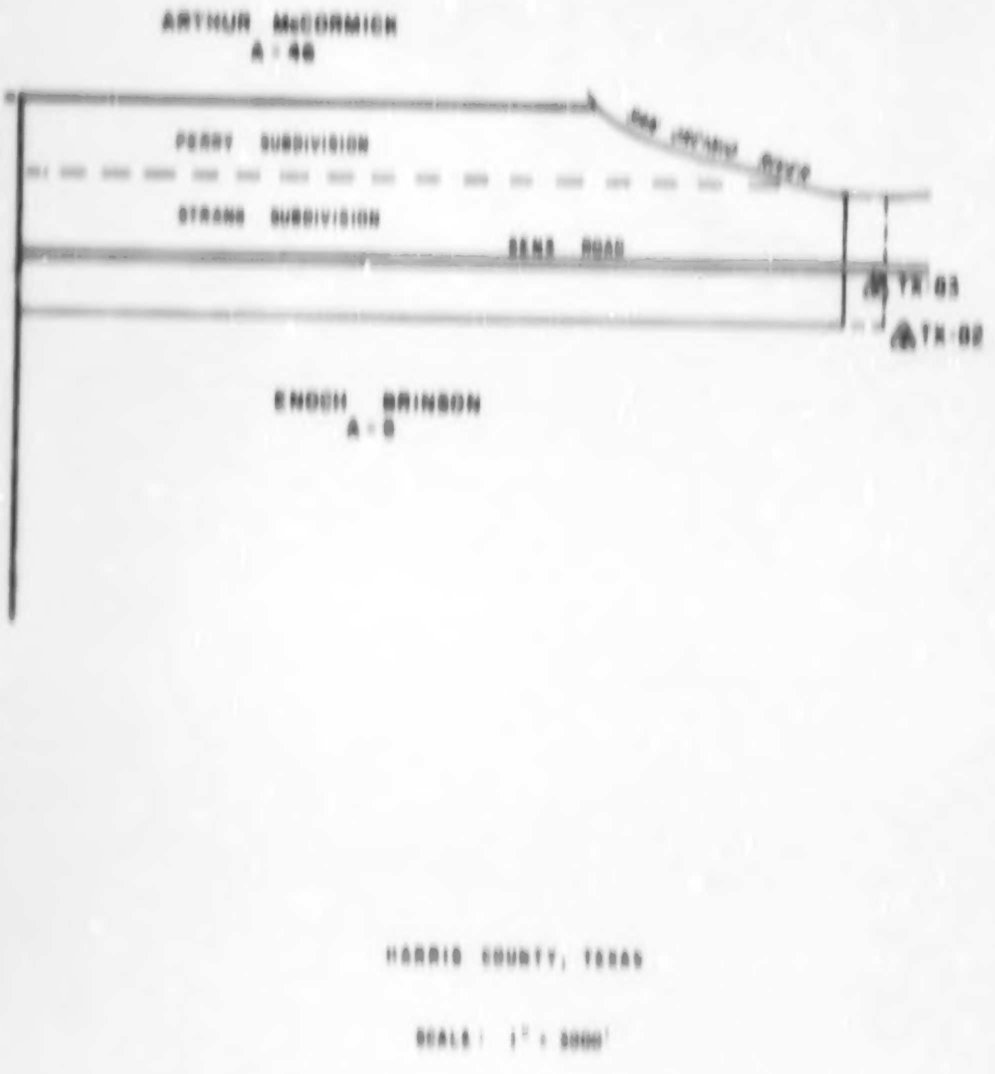


Figure 164 Location map of wells TX-82, 83

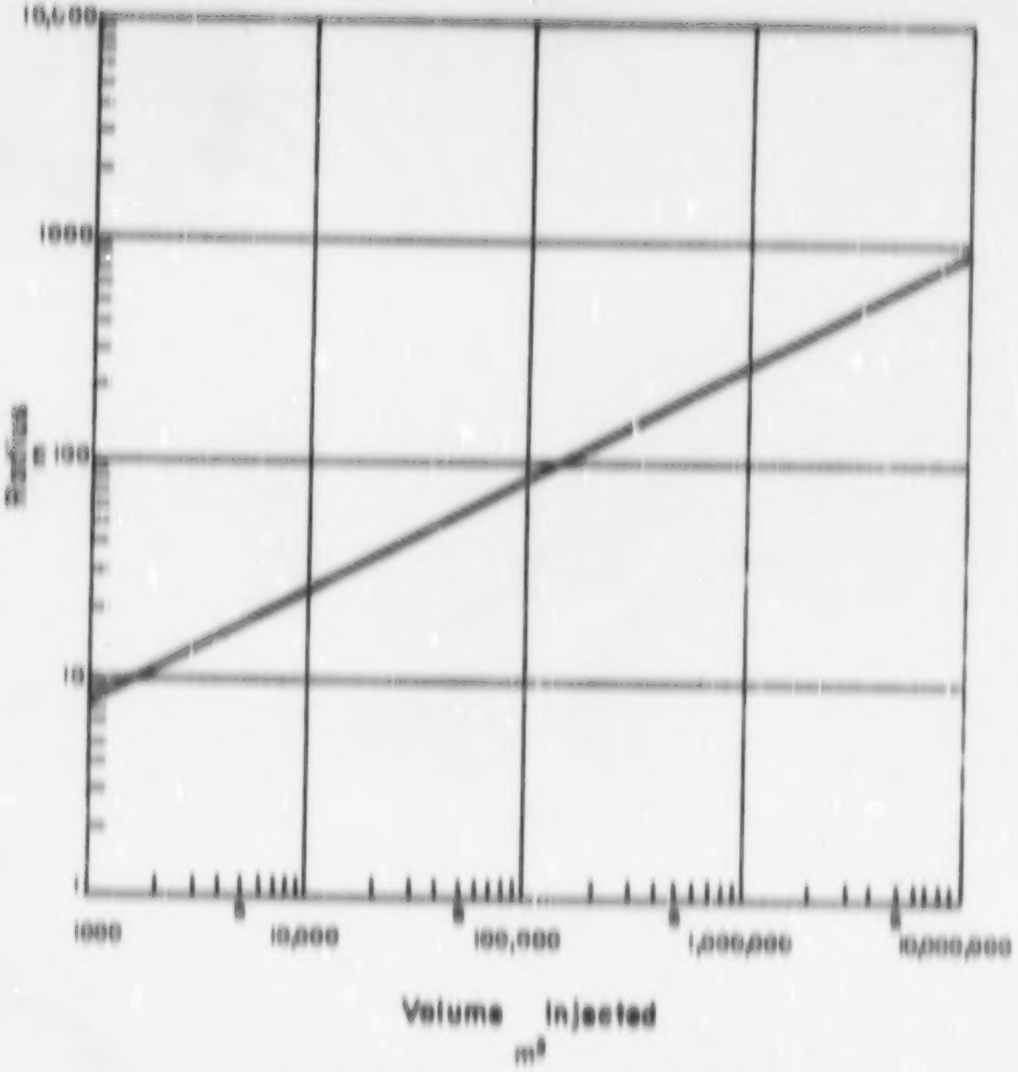


Figure I65 Radius of invasion for well TX-82

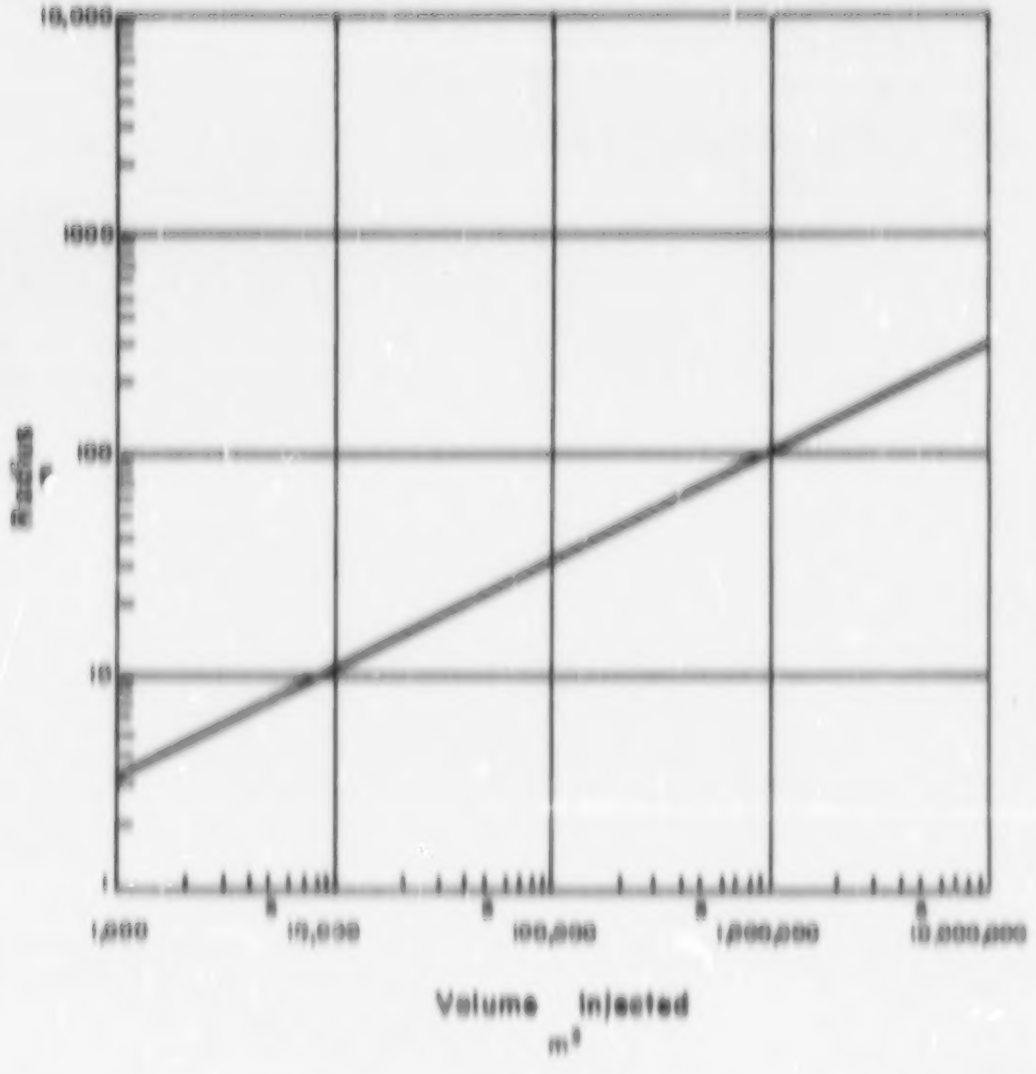


Figure 166 Radius of invasion for well TX-R3

OPERATING COMPANY: [illegible]
ADDRESS [illegible]

OPERATIONAL STATUS: [illegible]
PERMIT STATUS: [illegible]
REGION NO.: [illegible]
WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

Type of Waste Injected: [illegible]

[illegible]

III. GEOLOGIC INFORMATION

[illegible]

IV. WASTE CHARACTERISTICS

[illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

[illegible]

Type and Amount of Cement: [illegible]

Well Head Equipment: [illegible]

Subsurface Equipment: [illegible]

Completion Method: [illegible]

Plugging Record: [illegible]

[illegible]

VI. OPERATING CHARACTERISTICS

[illegible]

VII. MONITORING

[illegible]

Figure 167 Location map of well TX-84

OPERATING COMPANY:
ADDRESS:

OPERATIONAL STATUS:
PERMIT STATUS:

I. GENERAL IDENTIFICATION DATA

II. GENERAL WELL DATA

III. GEOLOGIC INFORMATION

IV. WASTE CHARACTERISTICS

V. WELL DESIGN AND SURFACE EQUIPMENT

VI. OPERATING CHARACTERISTICS

VII. SIGNIFICANCE

Figure 168 Location map of well TX-R5

[illegible]

[illegible]

[illegible]

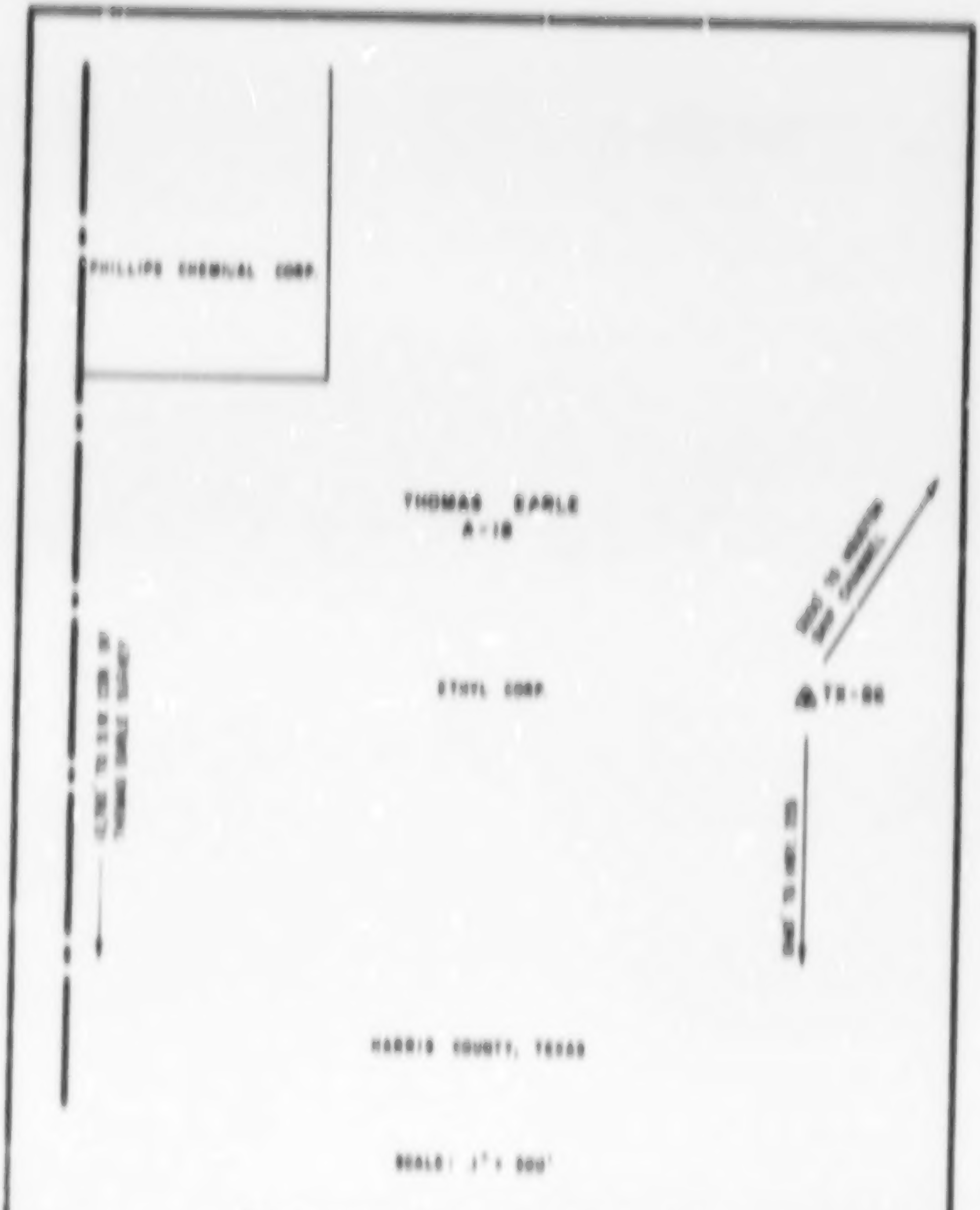


Figure 169 Location map of well TX-86

OPERATING COMPANY: [illegible]
ADDRESS [illegible]

OPERATIONAL STATUS: [illegible] FILLED BY: [illegible]
PERMIT STATUS: [illegible] WELL TYPE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

[illegible]

III. GEOLOGIC INFORMATION

[illegible]

IV. WASTE CHARACTERISTICS

[illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

[illegible]

VI. OPERATING CHARACTERISTICS

[illegible]

VII. MONITORING

[illegible]

OPERATING COMPANY: [illegible]
ADDRESS [illegible]

OPERATIONAL STATUS: [illegible] REGION NO.: [illegible]
PERMIT STATUS: [illegible] WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

[illegible]

III. GEOLOGIC INFORMATION

[illegible]

IV. WASTE CHARACTERISTICS

[illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

[illegible]

VI. OPERATING CHARACTERISTICS

[illegible]

VII. MONITORING

[illegible]

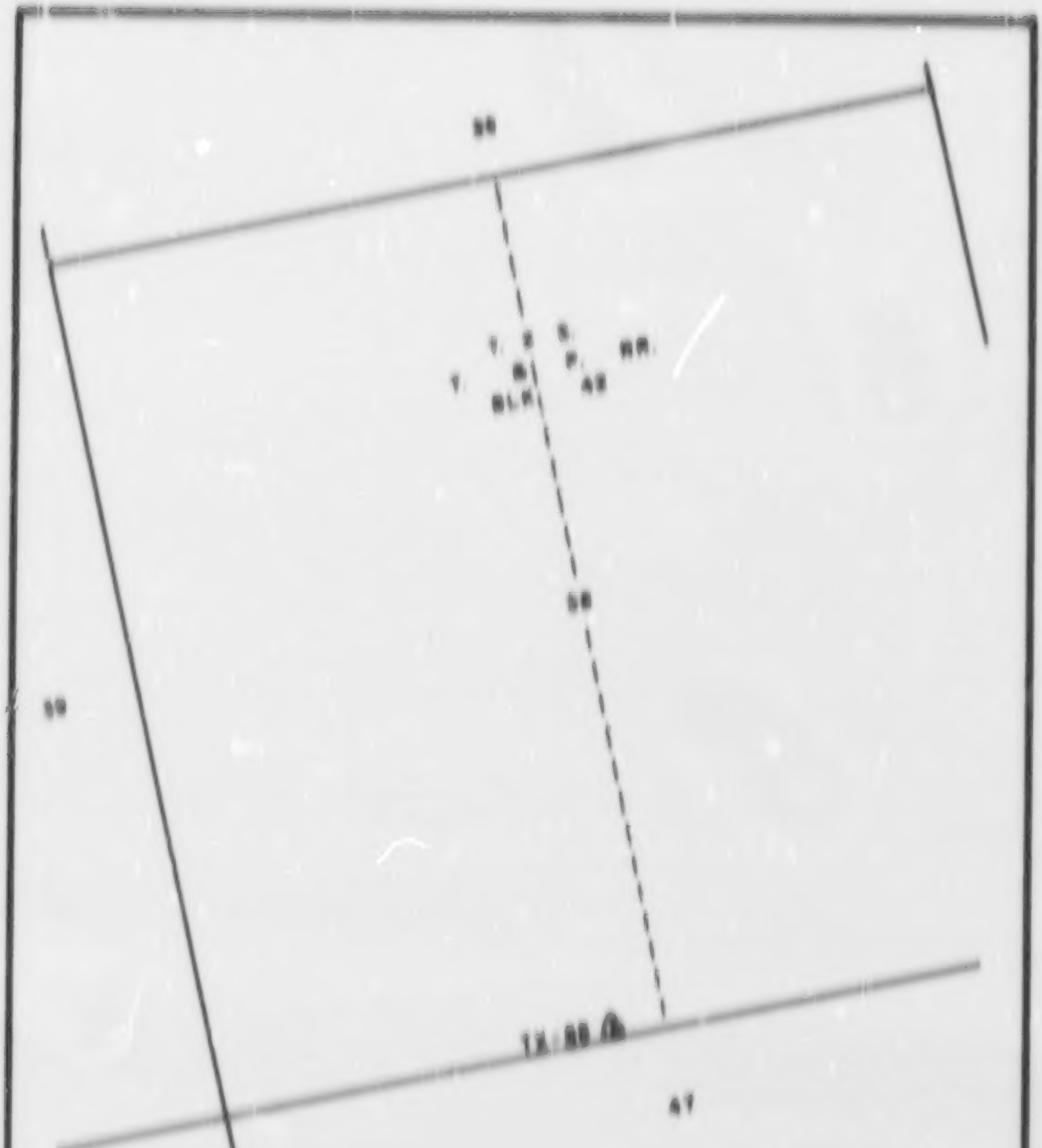


Figure 170 Location map of well TX-66

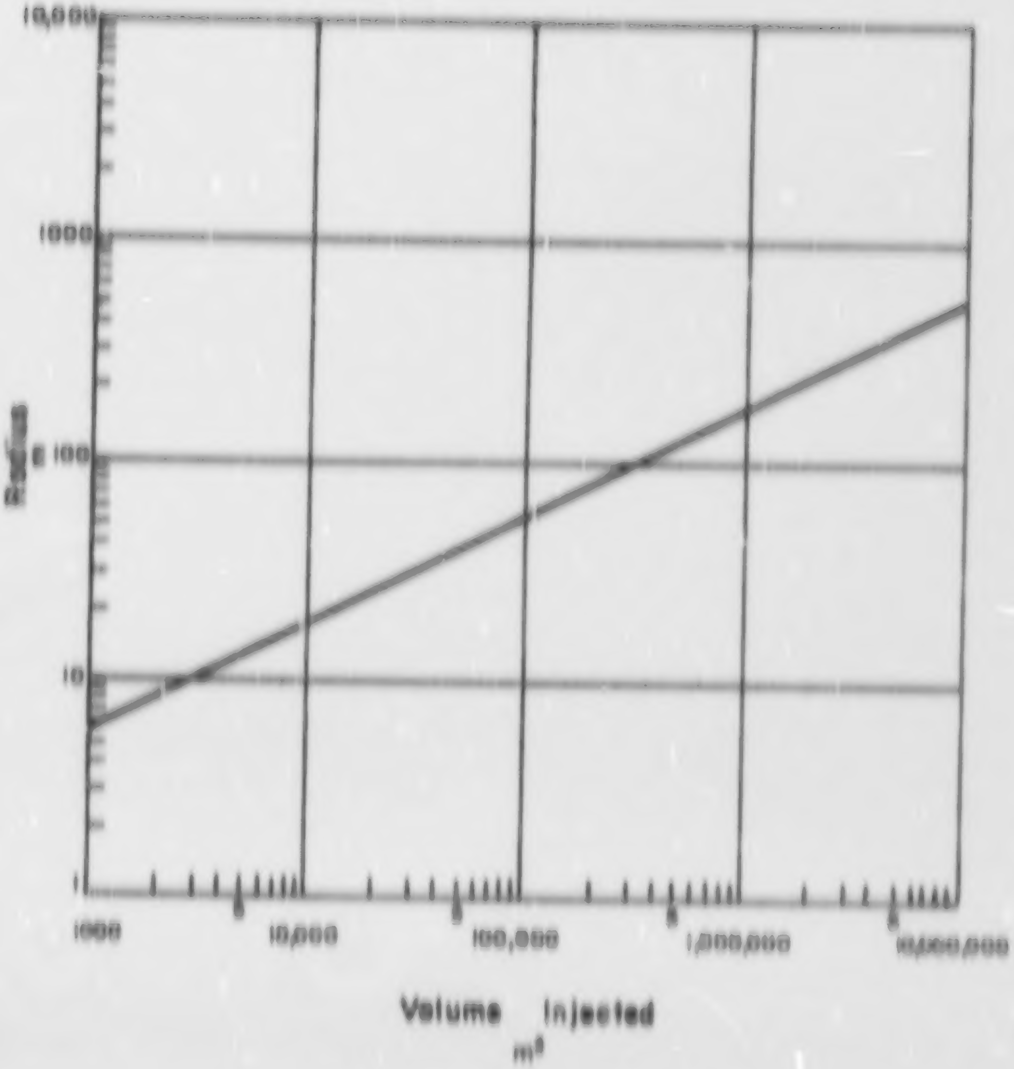


Figure 171 Radius of invasion for well TX-88

[illegible]

[illegible]

[illegible]

[illegible]

OPERATING COMPANY: [illegible]
ADDRESS: [illegible]

OPERATIONAL STATUS: [illegible] REGION NO: [illegible]
PERMIT STATUS: [illegible] WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

[illegible]

III. GEOLOGIC INFORMATION

[illegible] Description of Rock Units Penetrated by Well:

Name	Age	Depth	Thickness	Lithology
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Description of Injection Unit:

	Injection Unit	Caprock
[illegible]	[illegible]	[illegible]

[illegible]

Name	Depth	Thickness	Lithology	Fluid [illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Mineral Resources in Area: [illegible]

[illegible]

IV. WASTE CHARACTERISTICS

[illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

[illegible]

Type and Amount of Cement: [illegible]

Well Head Equipment: [illegible]

Subsurface Equipment: [illegible]

[illegible]

VI. OPERATING CHARACTERISTICS

Injection Rates: [illegible]

Injection Pressure: [illegible]

[illegible]

VII. MONITORING

Monitoring Devices and Data: [illegible]

Sampling Frequency and Water Quality Parameters Measured: [illegible]

Frequency of Measuring Water Levels and Hydrostatic Heads: [illegible]

Contingency Plan for Well Failure During Operation: [illegible]

[illegible]

MISCELLANEOUS

[illegible]

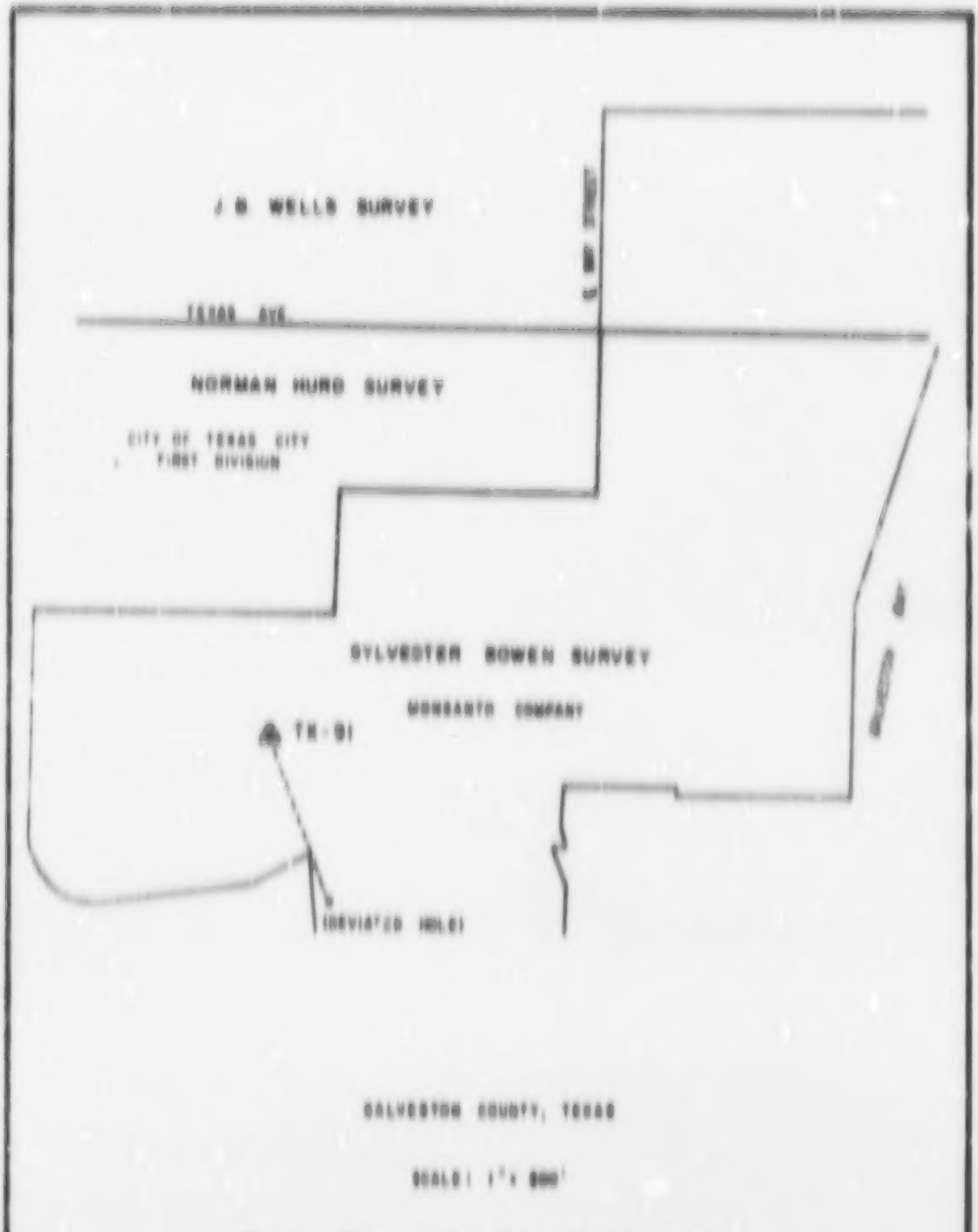


Figure 172 Location map of well TX-91

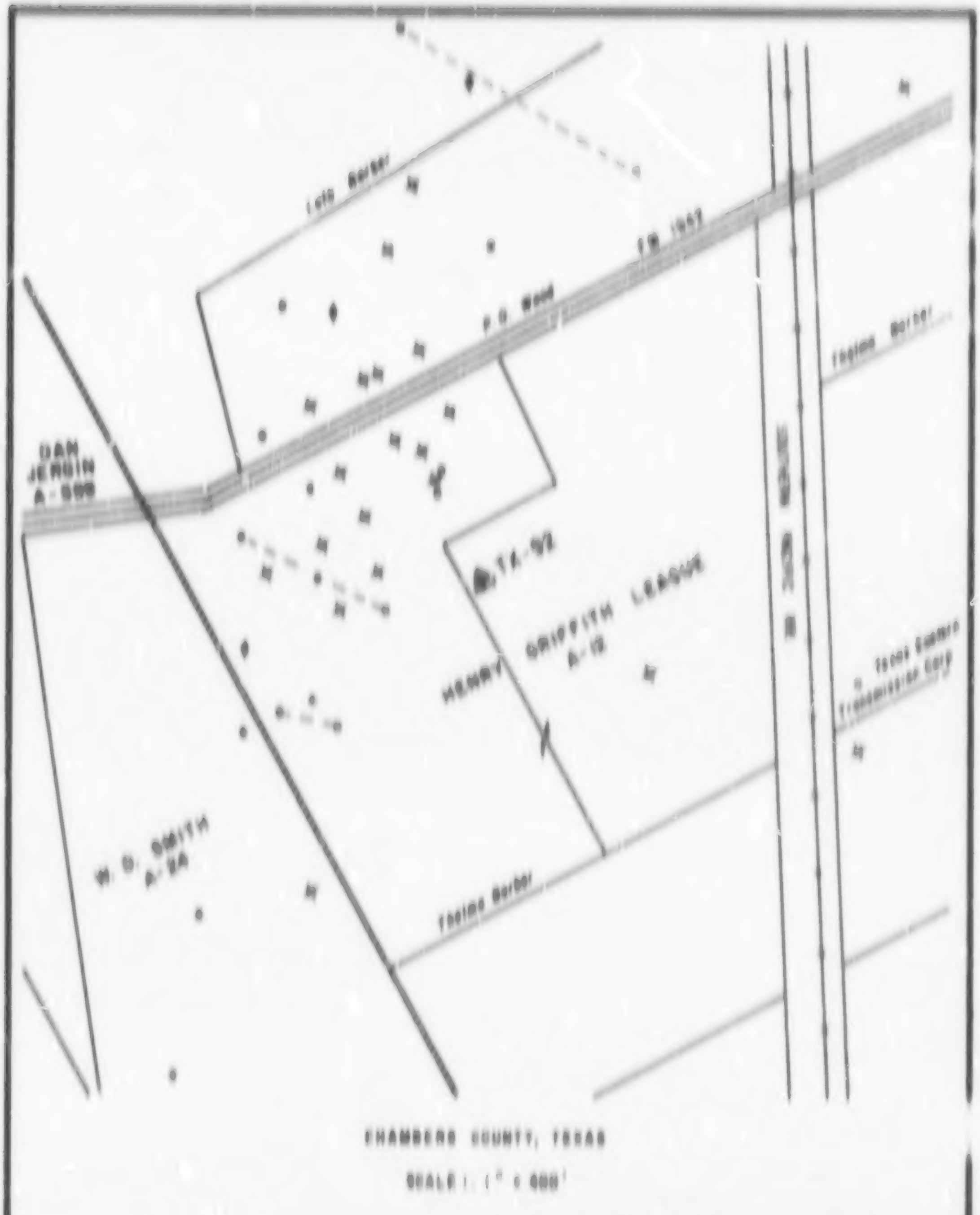


Figure 173 Location map of well TX-92

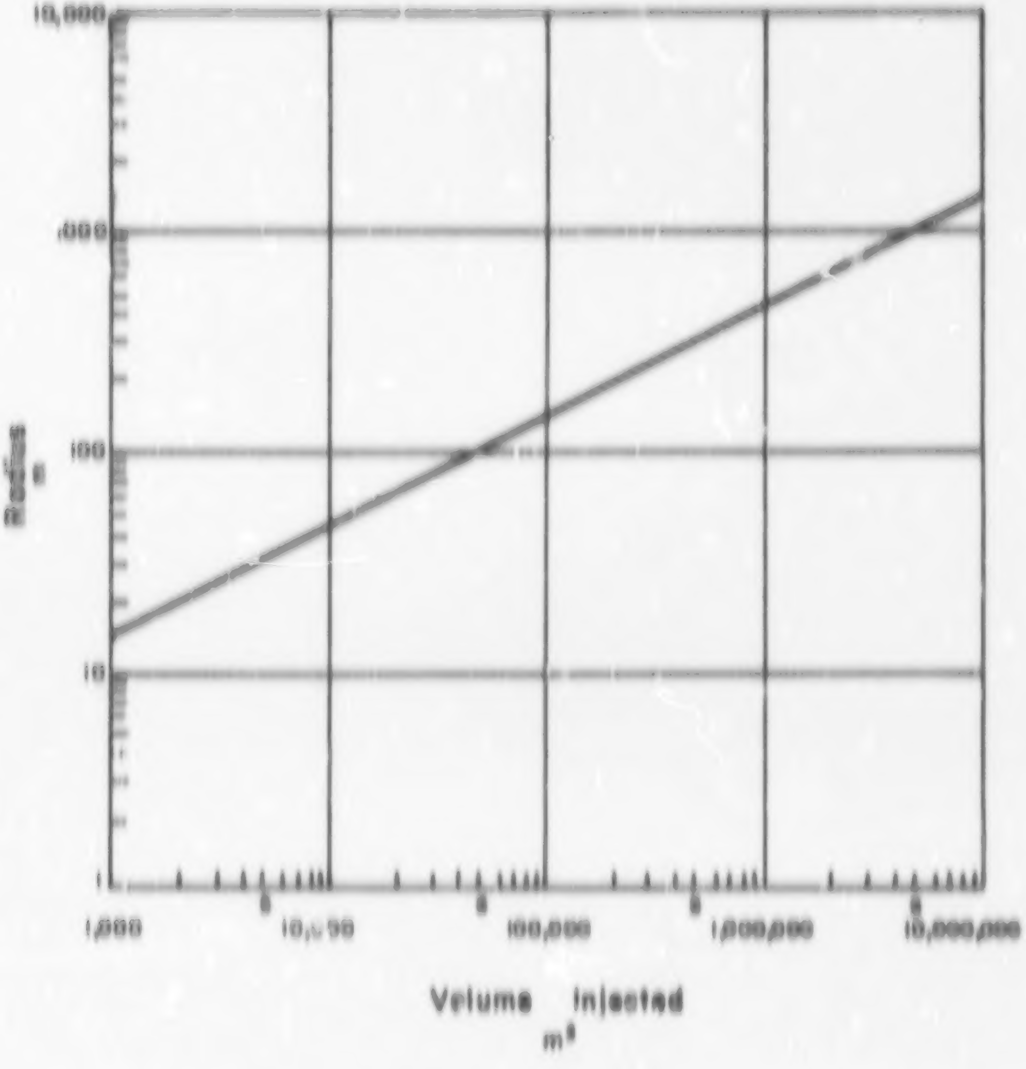


Figure 174 Radius of invasion for well TX-9R

OPERATING COMPANY: [illegible]
ADDRESS [illegible]

OPERATIONAL STATUS: [illegible] [illegible]
PERMIT STATUS: [illegible] [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

[illegible]

III. GEOLOGIC INFORMATION

[illegible]

Description of Injection Unit

[illegible]

Mineral Resources in Area

[illegible]

IV. WASTE CHARACTERISTICS

[illegible]

Compatibility with Surface Equipment

Biodegradability Level and Rate

[illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

[illegible]

VI. OPERATING CHARACTERISTICS

[illegible]

VII. MONITORING

[illegible]

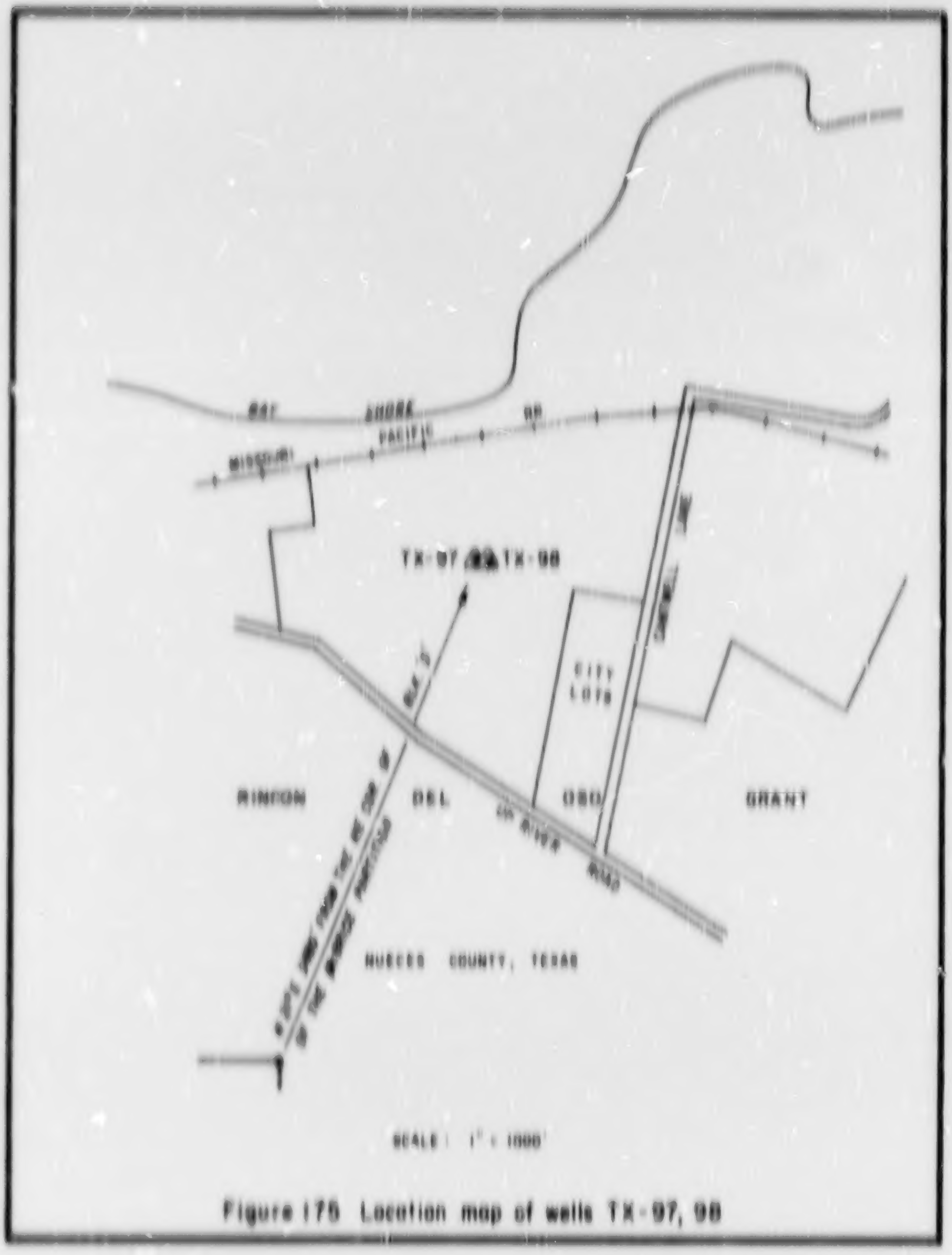


Figure 175 Location map of wells TX-97, 98

[illegible]

[illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

[illegible]

III. GEOLOGIC INFORMATION

[illegible]

IV. AQUIFER CHARACTERISTICS

[illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

[illegible]

VI. OPERATION CHARACTERISTICS

[illegible]

VII. MONITORING

[illegible]

MISCELLANEOUS

[illegible]

[redacted]

[redacted]

[redacted]

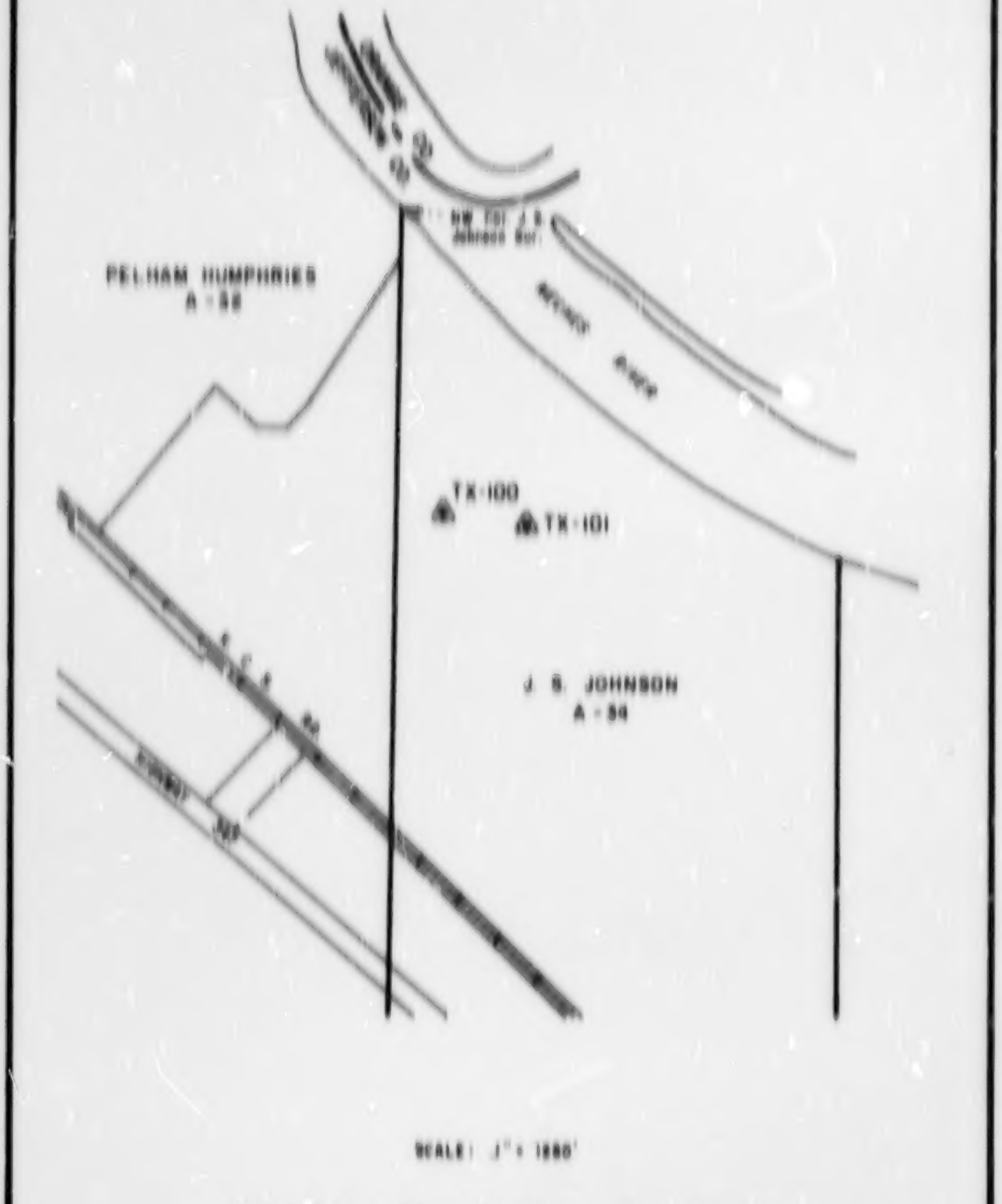


Figure 176 Location map of wells TX-100, 101

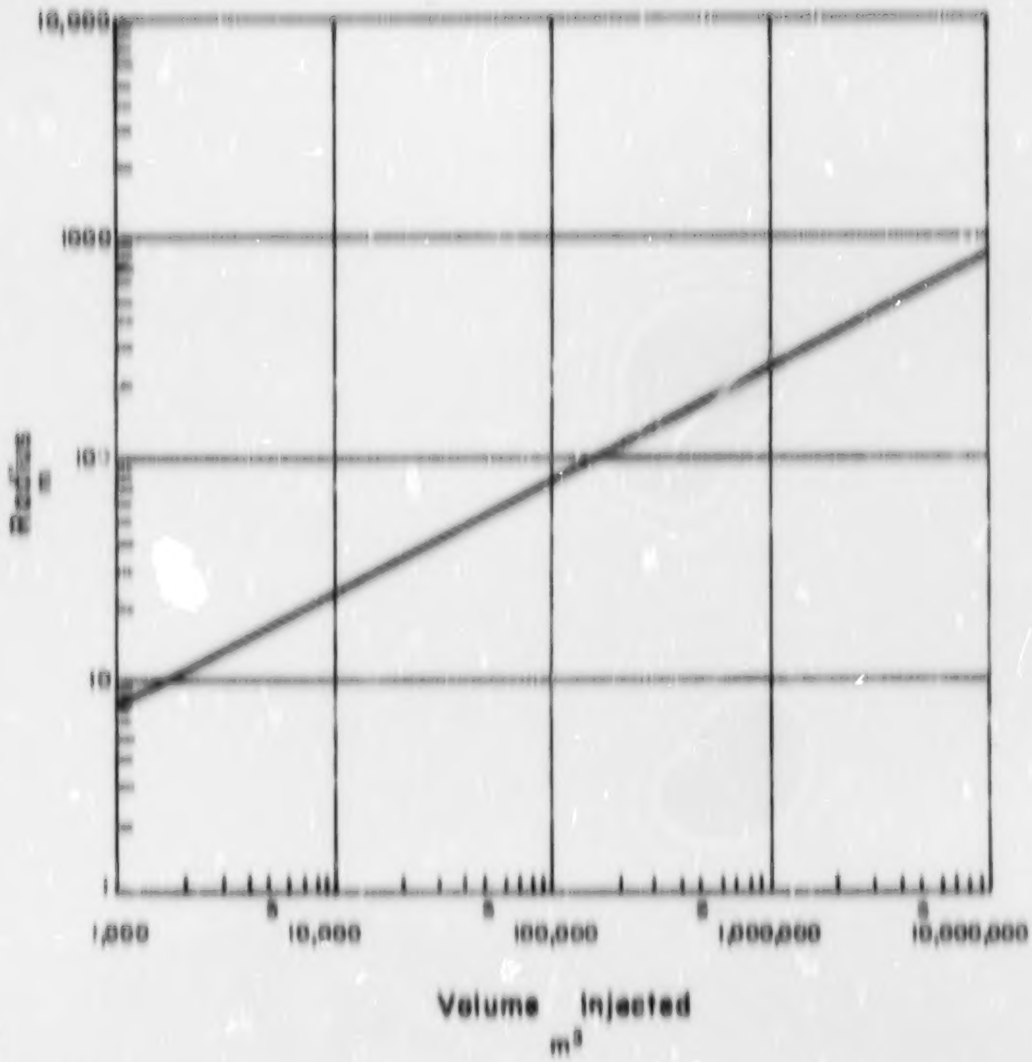


Figure 177 Radius of invasion for well TX-100

970

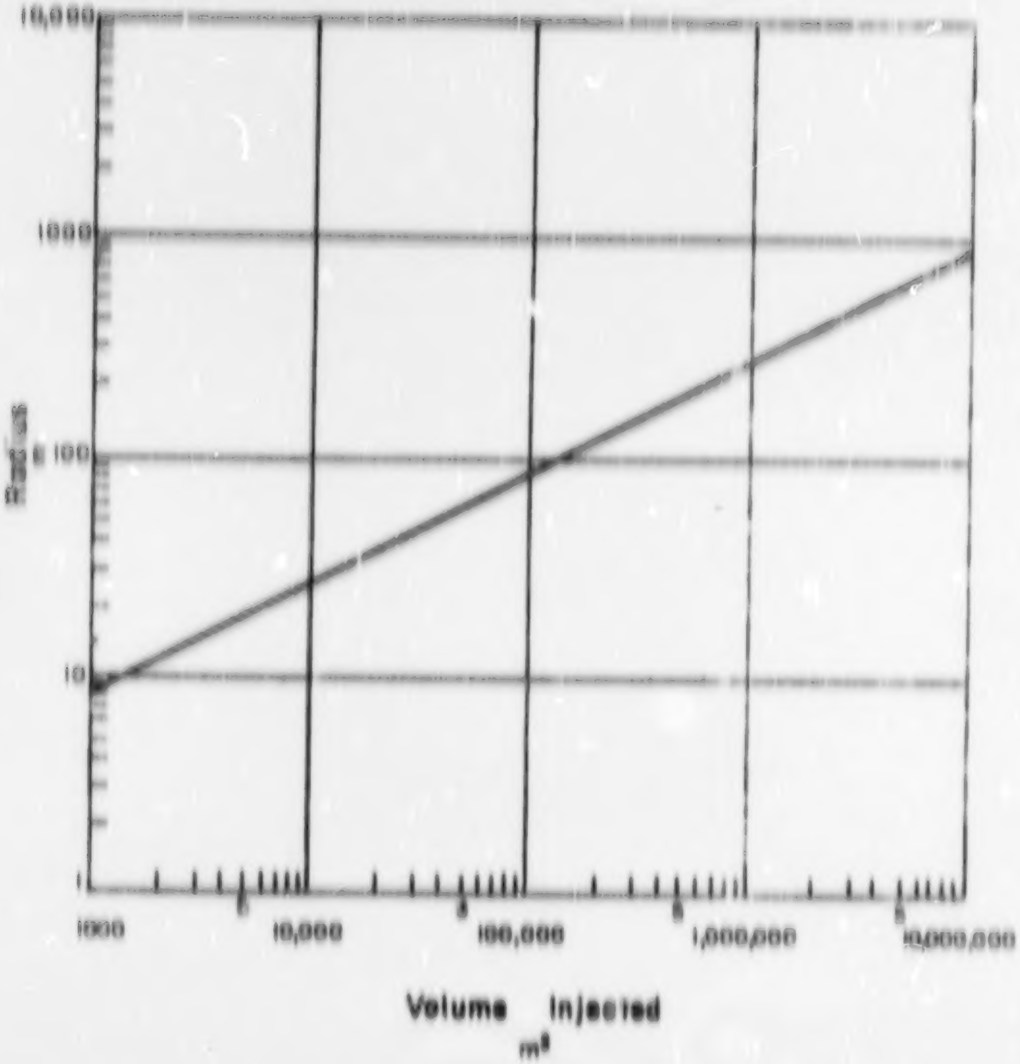


Figure 17B Radius of invasion for well TX-101

[redacted]

OPERATING COMPANY: [illegible]
ADDRESS: [illegible]

OPERATIONAL STATUS: [illegible] REGION NO.: [illegible]
PERMIT STATUS: [illegible] WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

Type of Waste Injected: [illegible]

[illegible]

III. GEOLOGIC INFORMATION

Geological Description of Rock Units Penetrated by Well

Name	Age	Depth	Thickness	Lithology
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Description of Injection Unit:

	Injection Unit	Confining
[illegible]	[illegible]	[illegible]

Hydrogeology of Fresh Water Aquifers in Vicinity

Name	Depth	Thickness	Lithology	Fluid Character
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[illegible]

IV. WASTE CHARACTERISTICS

Chemical Description: [illegible]

[illegible]

Reaction with Surface Equipment: [illegible]

[illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

[illegible]

Type and Amount of Cement: [illegible]

Well Head Equipment: [illegible]

Subsurface Equipment: [illegible]

Completion Method: [illegible]

Plugging Record: [illegible]

[illegible]

VI. OPERATING CHARACTERISTICS

Injection Rates: [illegible]

Injection Pressure: [illegible]

[illegible]

VII. MONITORING

Monitoring Devices and Data: [illegible]

Sampling Frequency and Water Quality Parameters Measured: [illegible]

Frequency of Reporting Water Levels and Hydrostatic Heads: [illegible]

Contingency Plan for Well Failure During Operation: [illegible]

Construction Requirements: [illegible]

Monitoring Requirements: [illegible]

Restrictions on Operation Procedures: [illegible]

MISCELLANEOUS

[illegible]

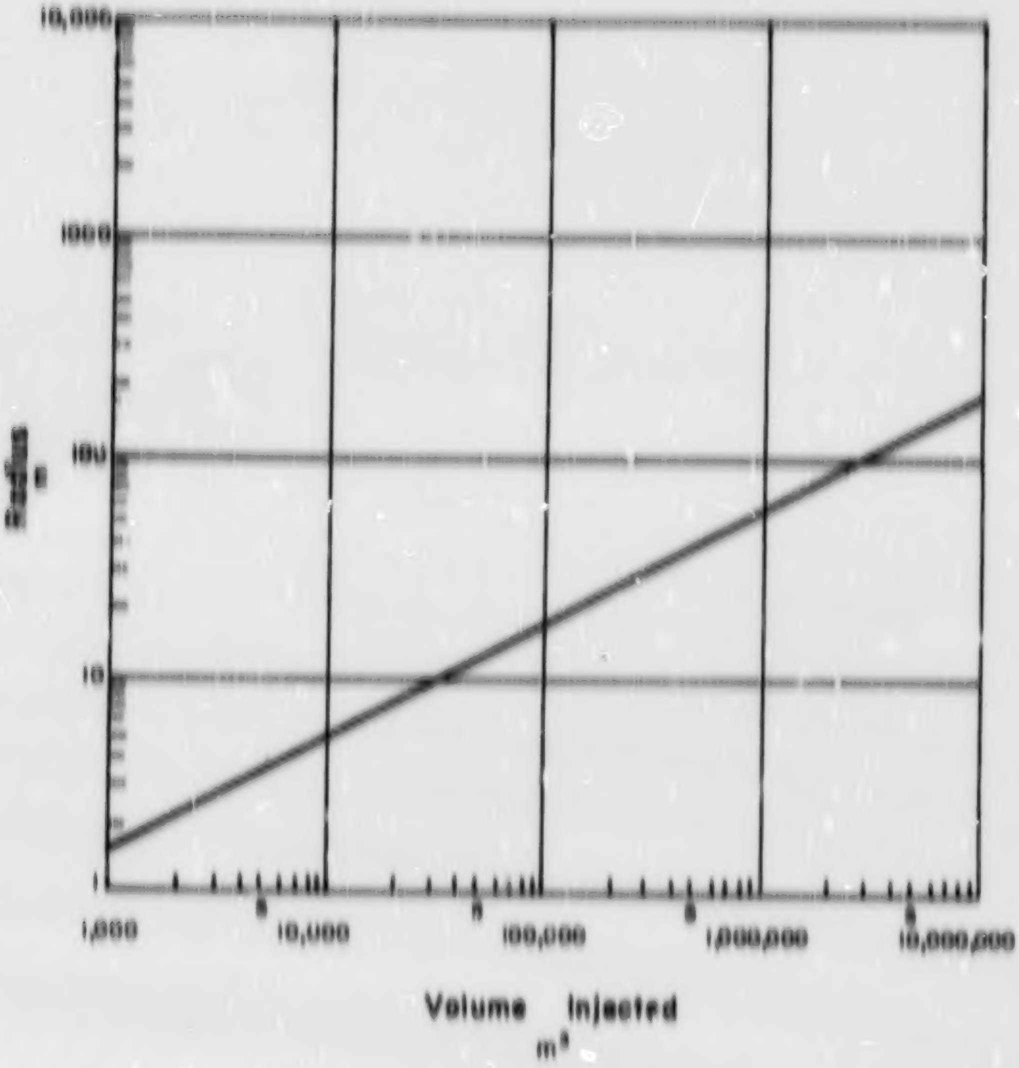


Figure 179 Radius of invasion for well TX-105

OPERATING COMPANY: [illegible]
ADDRESS [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

[illegible]

III. GEOLOGIC INFORMATION

Geological Description of Rock Units Penetrated by Well:

Unit	Age	Depth	Thickness	Lithology
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Geologic of Injection Unit: [illegible]

Lithostratigraphy of Fresh Water Aquifers in Vicinity:

Name	Depth	Thickness	Lithology	Fluid Character
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Mineral Resources in Area: [illegible]

Location of other wells in the affected area: [illegible]

IV. WASTE CHARACTERISTICS

[illegible]

Reaction with Surface Equipment: [illegible]

Degradability Level and Rate: [illegible]

Biological Level Before and After Injection: [illegible]

Pretreatment Waste Treatment: [illegible]

OPERATIONAL STATUS: [illegible] REGION NO.: [illegible]
PERMIT STATUS: [illegible] WELL CODE: [illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

[illegible]

Type and Amount of Cement: [illegible]

Well Head Equipment: [illegible]

Plugging Record: [illegible]

Holding Tanks and Flow Lines: [illegible]

[illegible]

VI. OPERATING CHARACTERISTICS

Injection Rates: [illegible]

Injection Pressure: [illegible]

Operating History and/or Problems: [illegible]

VII. MONITORING

Monitoring Devices and Data: [illegible]

Sampling Frequency and Water Quality Parameters Measured: [illegible]

Frequency of Measuring Water Levels and Hydrostatic Heads: [illegible]

Contingency Plan for Well Failure During Operation: [illegible]

Abandonment Requirements: [illegible]

Monitoring Requirements: [illegible]

Modifications or Operating Procedures: [illegible]

MISCELLANEOUS

[illegible]

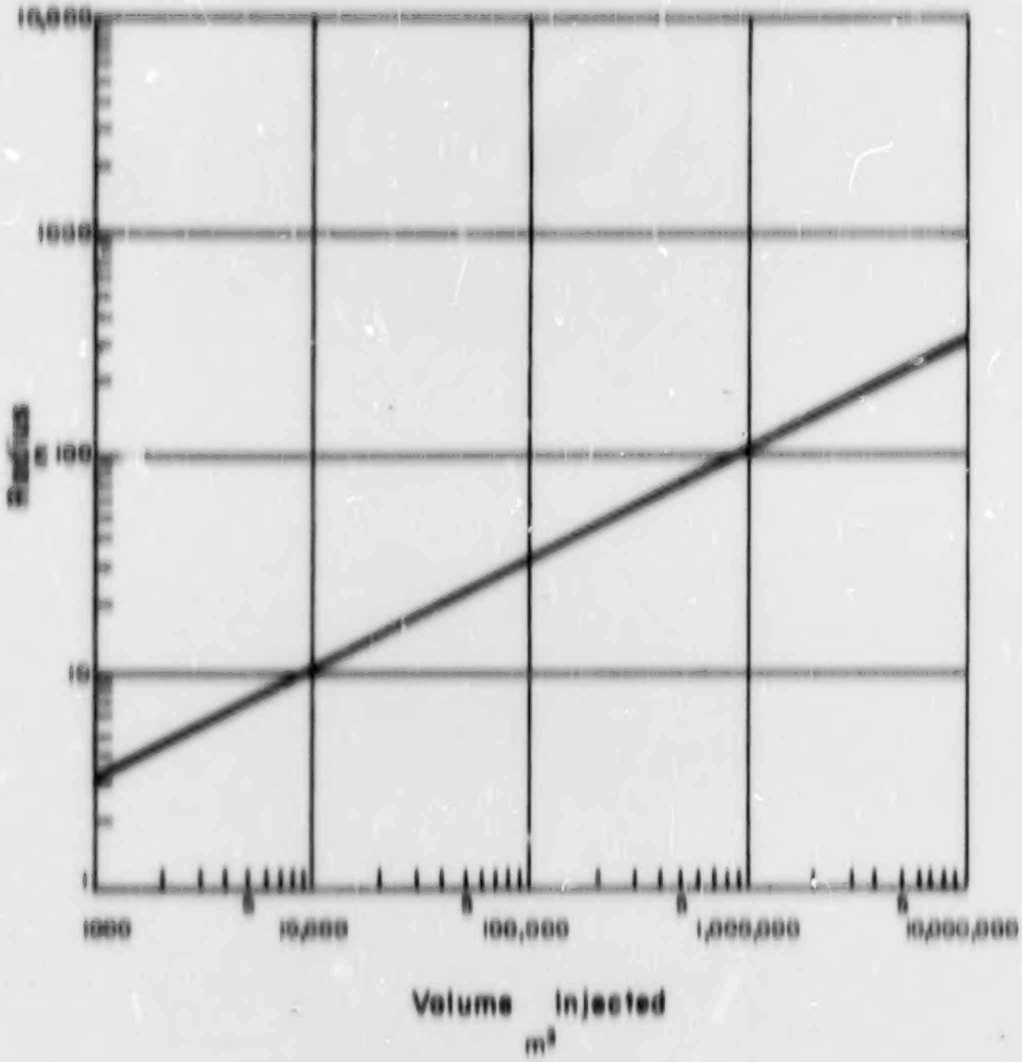


Figure 180 Radius of invasion for well TX-106

[illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

[illegible]

III. GEOLOGIC INFORMATION

[illegible]

IV. WASTE CHARACTERISTICS

[illegible]

OPERATIONAL STATUS: [illegible] REGION NO.: [illegible]
PERMIT STATUS: [illegible] WELL CODE: [illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

[illegible]

VI. OPERATING CHARACTERISTICS

[illegible]

VII. MONITORING

[illegible]

MISCELLANEOUS

[illegible]

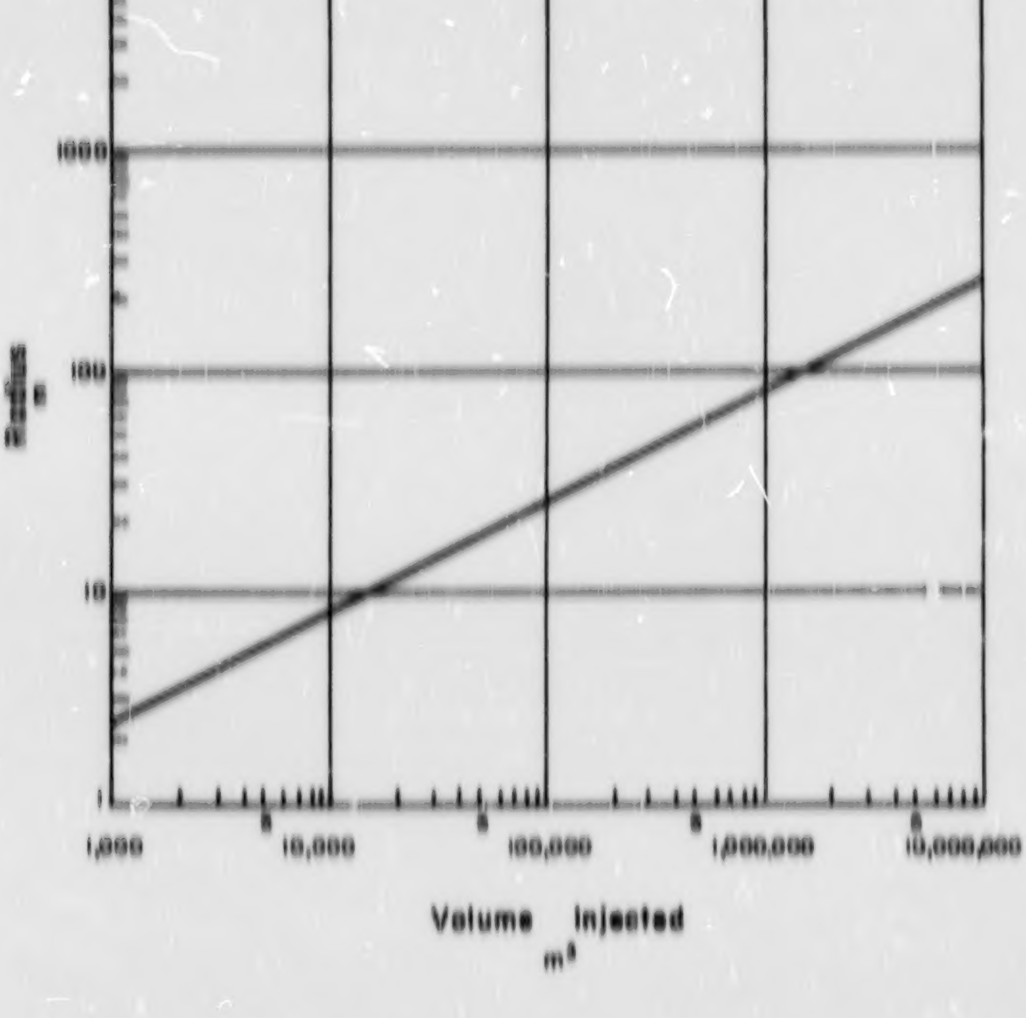


Figure 181 Radius of invasion for well TX-107

OPERATING COMPANY: [illegible]
ADDRESS: [illegible]

OPERATIONAL STATUS: [illegible] REGION NO.: [illegible]
PERMIT STATUS: [illegible] WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

Type of Waste Injected: [illegible]

[illegible]

III. GEOLOGIC INFORMATION

Lithologic Description of Rock Units Penetrated by Well:

[illegible]

Description of Injection Unit:

[illegible]

IV. WASTE CHARACTERISTICS

Chemical Description: [illegible]

[illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

[illegible]

Well Head Equipment: [illegible]

[illegible]

VI. OPERATING CHARACTERISTICS

[illegible]

Operating History, Annual Volumes: [illegible]

VII. MONITORING

Monitoring Devices and Data: [illegible]

Sampling Frequency and Water Quality Parameters Measured: [illegible]

Frequency of Measuring Water Levels and Hydrostatic Heads: [illegible]

Contingency Plan for Well Failure During Operation: [illegible]

Construction Requirements: [illegible]

Monitoring Requirements: [illegible]

Restrictions on Operating Pressure: [illegible]

MISCELLANEOUS:

[illegible]

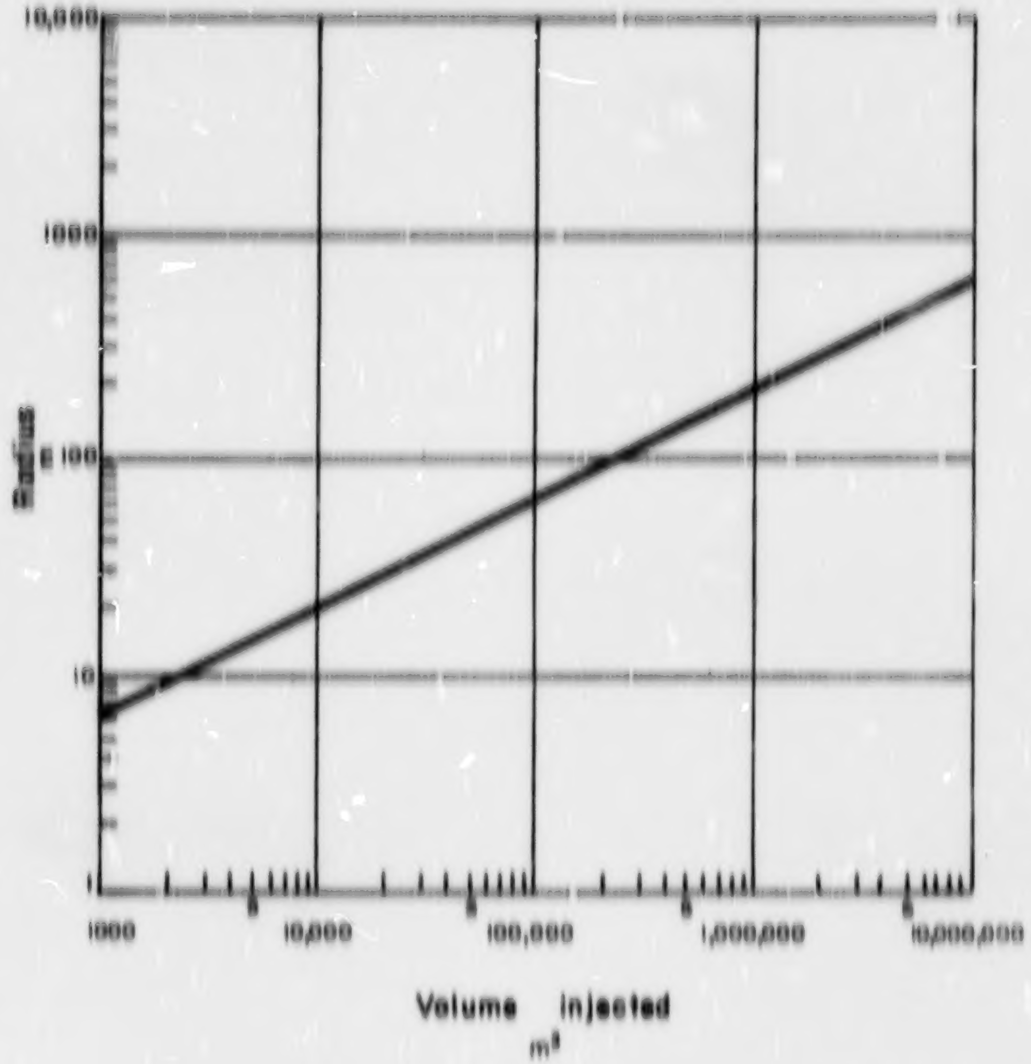


Figure 182 Radius of invasion for well TX-105

[illegible]

[illegible]

[illegible]

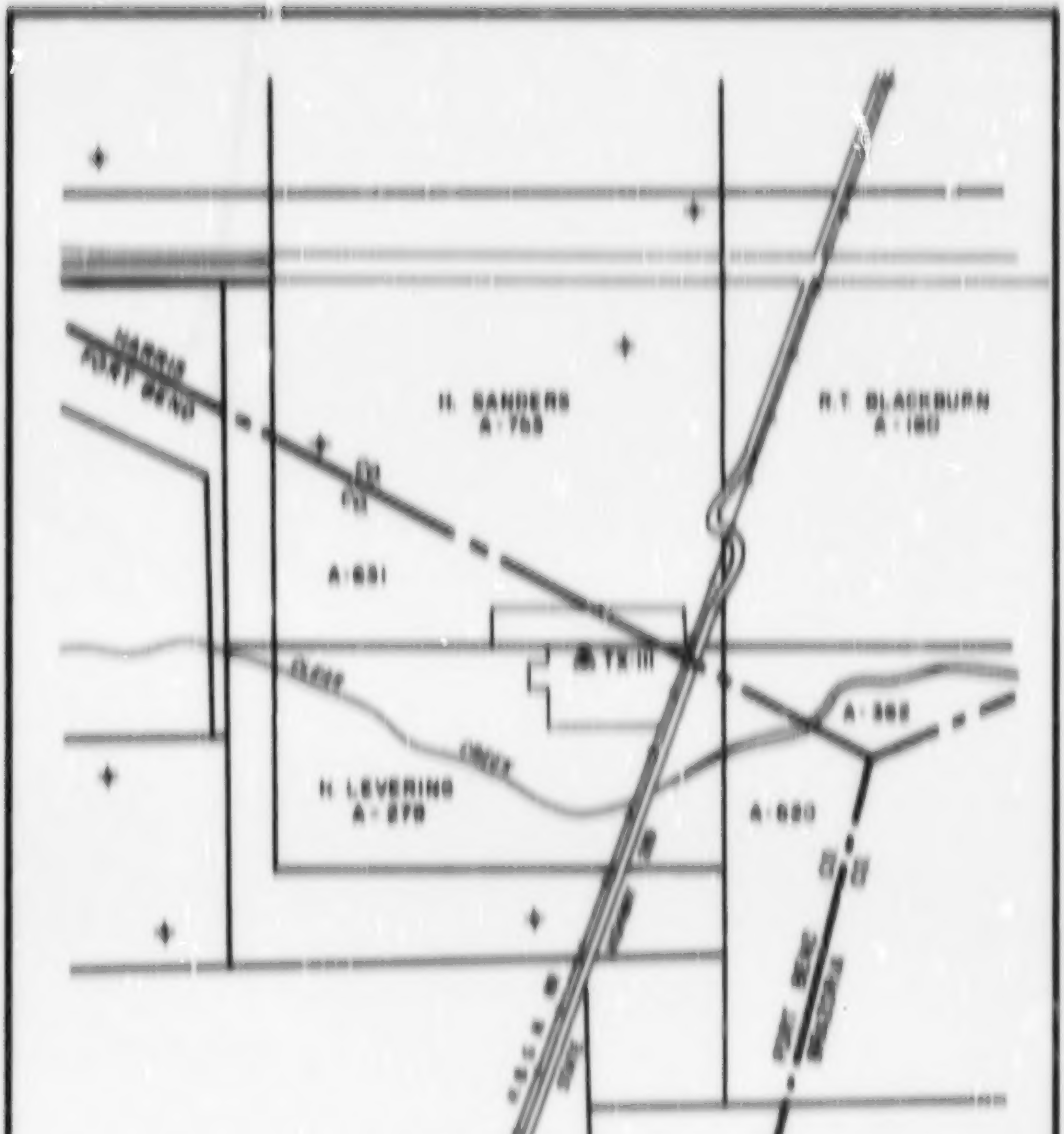


Figure 183 Location map of well TX-III

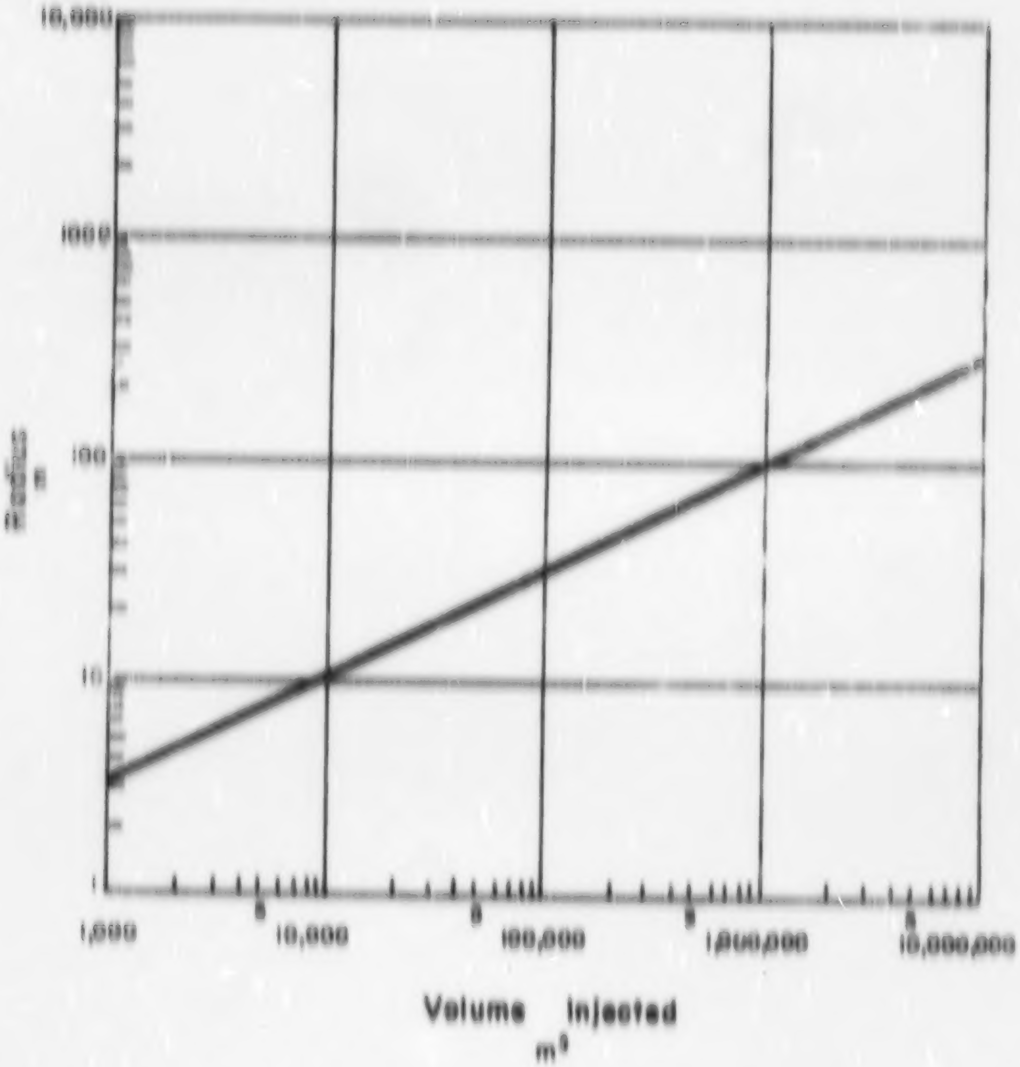


Figure I84 Radius of invasion for well TX-III

OPERATING COMPANY: [illegible]
ADDRESS: [illegible]

OPERATIONAL STATUS: [illegible] REGION NO.: [illegible]
PERMIT STATUS: [illegible] WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

Type of Waste Injected: [illegible]

[illegible]

III. GEOLOGIC INFORMATION

Geological Description of Rock Units Penetrated by Well:

Name	Age	Depth	Thickness	Lithology
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Description of Injection Unit:

	Injection Unit	Caprock
[illegible]	[illegible]	[illegible]

[illegible]

IV. WASTE CHARACTERISTICS

[illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

[illegible]

Type and Amount of Cement: [illegible]

Well Head Equipment: [illegible]

Subsurface Equipment: [illegible]

[illegible]

VI. OPERATION CHARACTERISTICS

[illegible]

VII. MONITORING

Monitoring Devices and Data: [illegible]

Sampling Frequency and Water Quality Parameters Analyzed: [illegible]

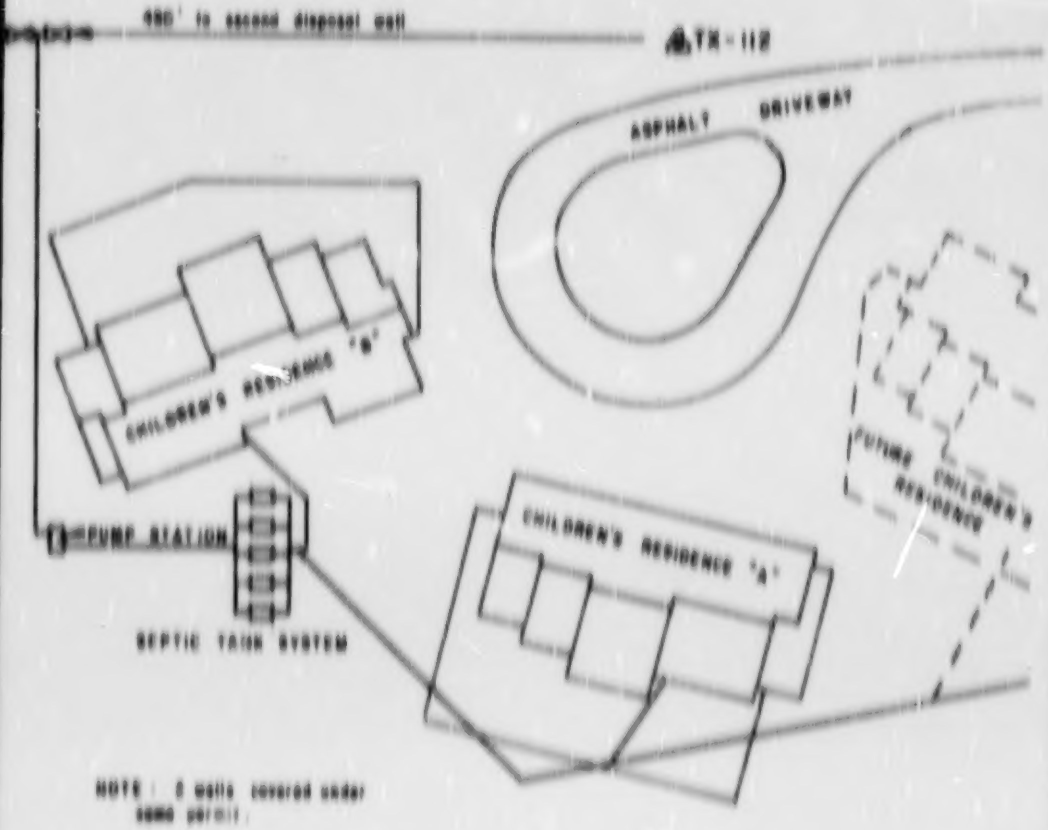
Frequency of Monitoring Water Level and Hydrostatic Head: [illegible]

Contingency Plan for Well Failure During Operation: [illegible]

Construction Requirements: [illegible]

Monitoring Requirements: [illegible]

[illegible]



NOTE: 2 wells covered under same permit.

PAX CHRISTI RESIDENCE
SCHOOL PROPERTY HERRARA GRANT A-806

NUECES COUNTY, TEXAS

SCALE: 1" = 80' APPROX

Figure 165 Location map of well TX-112

OPERATING COMPANY: [illegible]
ADDRESS: [illegible]

OPERATIONAL STATUS: [illegible] REGION NO.: [illegible]
PERMIT STATUS: [illegible] WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

Type of Waste Injected: [illegible]

[illegible]

III. GEOLOGIC INFORMATION

Geological Description of Rock Units Penetrated by Well:

Name	Age	Depth	Thickness	Lithology
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Description of Injection Unit:

[illegible]

IV. WASTE CHARACTERISTICS

[illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

[illegible]

Type and Amount of Cement: [illegible]

Well Head Equipment: [illegible]

Subsurface Equipment: [illegible]

Completion Method: [illegible]

Plugging Record: [illegible]

Holding Tanks and Flow Lines: [illegible]

VI. OPERATING CHARACTERISTICS

Injection Rates: [illegible]

Injection Pressure: [illegible]

Operating History and/or Problems: [illegible]

VII. MONITORING

Monitoring Devices and Data: [illegible]

Sampling Frequency and Water Quality Parameters Measured: [illegible]

Frequency of Measuring Water Levels and Hydrostatic Heads: [illegible]

Contingency Plan for Well Failure During Operation: [illegible]

Construction Requirements: [illegible]

Monitoring Requirements: [illegible]

Restrictions on Operating Procedures: [illegible]

MISCELLANEOUS

[illegible]

OPERATING COMPANY: [illegible]
ADDRESS: [illegible]

OPERATIONAL STATUS: [illegible] REGION NO.: [illegible]
PERMIT STATUS: [illegible] WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible] Date of Data: [illegible]
[illegible]
[illegible] Elevation: [illegible]

II. GENERAL WELL DATA

Type of Waste Injected: [illegible]

[illegible] Depth of Injection [illegible]: [illegible]
[illegible]
[illegible]

III. GEOLOGIC INFORMATION

[illegible]

Name	Age	Depth	Thickness	Lithology
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Description of Injection Unit:

[illegible]

Name	Depth	Thickness	Lithology	Fluid Character
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[illegible] in Area: [illegible]

[illegible] of Other Wells in the Affected Area: [illegible]

IV. WASTE CHARACTERISTICS

[illegible]

Reaction with Surface Equipment: [illegible]

[illegible]

[illegible]

[illegible] Waste Treatment: [illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

	Hole Size	Casing/Tubing Wt. & Grade	Size	Depth
Surface:	[illegible]	[illegible]	[illegible]	[illegible]
Intermediate:	[illegible]	[illegible]	[illegible]	[illegible]
Other:	[illegible]	[illegible]	[illegible]	[illegible]
Injection:	[illegible]	[illegible]	[illegible]	[illegible]
Liner:	[illegible]	[illegible]	[illegible]	[illegible]

Type and Amount of Cement: [illegible]

Well Head Equipment: [illegible]

Subsurface Equipment: [illegible]

[illegible]

Plugging Record: [illegible]

[illegible]

[illegible]

VI. OPERATING CHARACTERISTICS

Injection Rate: [illegible]

Injection Pressure: [illegible]

Operating History [illegible]: [illegible]

VII. MONITORING

Monitoring Devices and Data: [illegible]

Sampling Frequency and Water Quality Parameters Measured: [illegible]

[illegible]

Contingency Plan for Well Failure During Operation: [illegible]

Construction Requirements: [illegible]

Monitoring Requirements: [illegible]

Restrictions on Operation Procedures: [illegible]

[illegible]

[illegible]

OPERATING COMPANY:
ADDRESS:

OPERATIONAL STATUS:
PERMIT STATUS:
REGION NO.:
WELL CODE:

I. GENERAL IDENTIFICATION DATA

II. GENERAL WELL DATA

III. GEOLOGIC INFORMATION

IV. WASTE CHARACTERISTICS

V. WELL DESIGN AND SURFACE EQUIPMENT

VI. OPERATING CHARACTERISTICS

VII. MONITORING

OPERATING COMPANY: [illegible]
ADDRESS: [illegible]

OPERATIONAL STATUS: [illegible] REGION NO.: [illegible]
PERMIT STATUS: [illegible] WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

Type of Waste Injected: [illegible]

[illegible]

III. GEOLOGIC INFORMATION

Geological Description of Rock Units Penetrated by Well:

Name	Age	Depth	Thickness	Lithology
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Description of Injection Unit:

[illegible]

Geohydrology of Fresh Water Aquifers in Vicinity:

Name	Depth	Thickness	Lithology	Fluid Character
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Mineral Resources in Area: [illegible]

Location of other wells in the Affected Area: [illegible]

IV. WASTE CHARACTERISTICS

Chemical Description: [illegible]

[illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

[illegible]

Well Head Equipment: [illegible]

Subsurface Equipment: [illegible]

Completion Method: [illegible]

Plugging Record: [illegible]

[illegible]

VI. OPERATING CHARACTERISTICS

Injection Rates: [illegible]

Injection Pressure: [illegible]

Operating History and/or Problems: [illegible]

VII. MONITORING

Monitoring Devices and Data: [illegible]

Contingency Plan for Well Failure During Operation: [illegible]

Monitoring Requirements: [illegible]

Restrictions on Operational Procedures: [illegible]

Additional Data

[illegible]

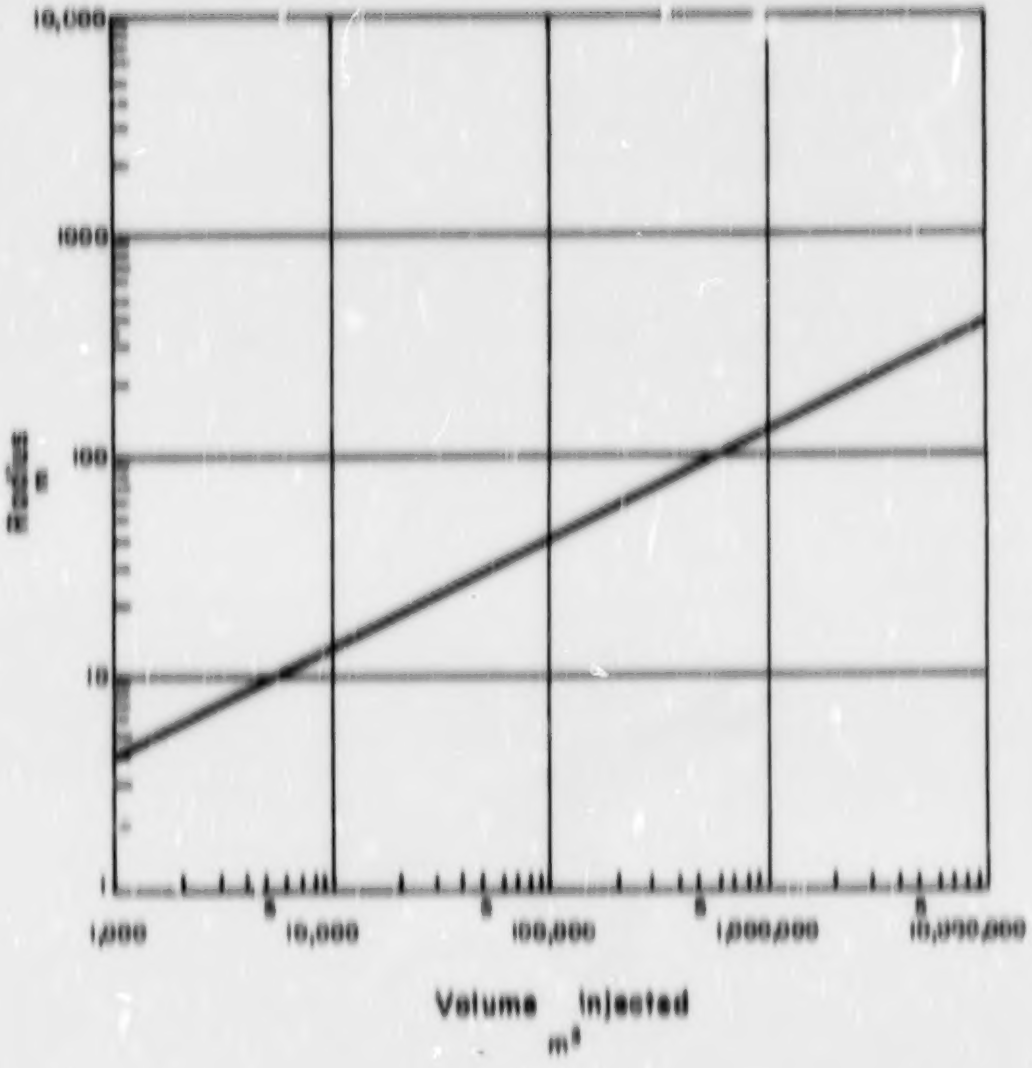


Figure 186 Radius of invasion for well TX-118

EPA REGION VII

Iowa = 997
Kansas = 998

OPERATING COMPANY:
ADDRESS:

OPERATIONAL STATUS:
PERMIT STATUS:

I. GENERAL IDENTIFICATION DATA

II. GENERAL WELL DATA

III. GEOLOGIC INFORMATION

Geological Description of Rock Units Penetrated by Well:

Name	Age	Depth	Thickness	Lithology

Description of Injection Unit:

Name	Depth	Thickness	Lithology	Fluid Characteristics

IV. WELL CONSTRUCTION

V. WELL STATUS AND SURFACE EQUIPMENT

VI. OPERATION CHARACTERISTICS

VII. MONITORING

VIII. MISCELLANEOUS

OPERATING COMPANY: [illegible]
ADDRESS: [illegible]

OPERATIONAL STATUS: [illegible] REGION NO.: [illegible]
PERMIT STATUS: [illegible] WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

Type of Waste Injected: [illegible]

Name, Age, and Depth of Injection Zone: [illegible]

[illegible]

III. GEOLOGIC INFORMATION

Geological Description of Rock Units Penetrated by Well:

Name	Age	Depth	Thickness	Lithology
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Description of Injection Unit:

	Injection Unit	Caprock
[illegible]	[illegible]	[illegible]

Chemical Characteristics of Formation Fluid: [illegible]

Hydrology of Fresh Water Aquifers in Vicinity:

Name	Depth	Thickness	Lithology	Fluid Character
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Mineral Resources in Area: [illegible]

Location of Other Wells in the Affected Area: [illegible]

IV. WASTE CHARACTERISTICS

Chemical Description: [illegible]

[illegible]

Specific Gravity: [illegible]

[illegible]

Reaction with Surface Equipment: [illegible]

Degradability Level and Rate: [illegible]

[illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

	Hole Size	Casing/Tubing Wt. & Grade	Size	Depth
Surface:	[illegible]	[illegible]	[illegible]	[illegible]
Intermediate:	[illegible]	[illegible]	[illegible]	[illegible]
Other:	[illegible]	[illegible]	[illegible]	[illegible]
Injection:	[illegible]	[illegible]	[illegible]	[illegible]
Liner:	[illegible]	[illegible]	[illegible]	[illegible]

Type and Amount of Cement: [illegible]

Well Head Equipment: [illegible]

Subsurface Equipment: [illegible]

Completion Method: [illegible]

Plugging Record: [illegible]

Holding Tanks and Flow Lines: [illegible]

[illegible]

Total Cost of Construction: [illegible]

Operating Cost: [illegible]

VI. OPERATING CHARACTERISTICS

Injection Rates: [illegible]

[illegible]

Injection Pressure: [illegible]

[illegible]

Operating History: [illegible]

VII. MONITORING

Monitoring Devices and Data: [illegible]

Sampling Frequency and Water Quality Parameters Measured: [illegible]

Frequency of Measuring Water Levels and Hydrostatic Heads: [illegible]

Contingency Plan for Well Failure During Operation: [illegible]

Requirements: [illegible]

Monitoring Requirements: [illegible]

Restrictions on Operating Procedures: [illegible]

REFERENCES

[illegible]

OPERATING COMPANY: [illegible]
ADDRESS [illegible]

OPERATIONAL STATUS: [illegible] REGION NO.: [illegible]
PERMIT STATUS: [illegible] WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

[illegible]

III. GEOLOGIC INFORMATION

[illegible]

IV. WASTE CHARACTERISTICS

[illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

[illegible]

VI. OPERATING CHARACTERISTICS

[illegible]

VII. MONITORING

[illegible]

OPERATING COMPANY: [illegible]
ADDRESS [illegible]

OPERATIONAL STATUS: [illegible] REGION NO: [illegible]
PERMIT STATUS: [illegible] WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

[illegible]

III. GEOLOGIC INFORMATION

[illegible]

IV. WASTE CHARACTERISTICS

[illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

[illegible]

VI. OPERATING CHARACTERISTICS

[illegible]

VII. MONITORING

[illegible]

OPERATING COMPANY:

ADDRESS:

OPERATIONAL STATUS:

PERMIT STATUS:

REGION NO:

WELL CODE:

I. GENERAL IDENTIFICATION DATA

II. GENERAL WELL DATA

III. GEOLOGIC INFORMATION

IV. WASTE CHARACTERISTICS

V. WELL DESIGN AND SURFACE EQUIPMENT

VI. OPERATING CHARACTERISTICS

VII. MONITORING

MISCELLANEOUS

[redacted]

OPERATING COMPANY: [illegible]
ADDRESS: [illegible]

OPERATIONAL STATUS: [illegible]
PERMIT STATUS: [illegible]
REGION NO.: [illegible]
WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

[illegible]

III. GEOLOGIC INFORMATION

Stratigraphic Description of Rock Units Penetrated by Well: [illegible]

[illegible]

Characteristics of Injection Unit [illegible]

[illegible]

Mineral Resources in Area [illegible]

Location of Other Wells in the Affected Area: [illegible]

IV. WASTE CHARACTERISTICS

Chemical Description: [illegible]

[illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

[illegible]

Type and Amount of Cement: [illegible]

Well Head Equipment: [illegible]

Subsurface Equipment: [illegible]

Completion Method: [illegible]

Plugging Method: [illegible]

Holding Tanks and Flow Lines: [illegible]

[illegible]

VI. OPERATING CHARACTERISTICS

Injection Rate: [illegible]

Injection Pressure: [illegible]

Operating History and/or Problems: [illegible]

VII. MONITORING

Monitoring Devices and Data: [illegible]

Sampling Frequency and Water Quality Parameters Measured: [illegible]

Frequency of Measuring Water Levels and Hydrostatic Head: [illegible]

Contingency Plan for Well Failure During Operation: [illegible]

Construction Requirements: [illegible]

Monitoring Requirement: [illegible]

Restrictions on Operation Procedures: [illegible]

MISCELLANEOUS

[illegible]

OPERATIONAL STATUS:

PERMIT STATUS:

REGION NO.:

WELL CODE:

I. GENERAL IDENTIFICATION DATA

II. GENERAL WELL DATA

III. GEOLOGIC INFORMATION

IV. WASTE CHARACTERISTICS

V. WELL DESIGN AND SURFACE EQUIPMENT

Type and Amount of Cement:

Well Head Equipment:

Subsurface Equipment:

Completion Method:

Plugging Record:

Holding Tanks and Flow Lines:

VI. OPERATING CHARACTERISTICS

VII. MONITORING

Monitoring Devices and Data:

Sampling Frequency and Water Quality Parameters Measured:

Contingency Plan for Well Failure During Operation:

Construction Requirements:

Monitoring Requirements:

Restrictions on Operation Procedures:

MISCELLANEOUS

OPERATING COMPANY: [illegible]
ADDRESS: [illegible]

OPERATIONAL STATUS: [illegible] REGION NO.: [illegible]
PERMIT STATUS: [illegible] WELL CODE: [illegible]

I. GENERAL IDENTIFICATION DATA

[illegible]

II. GENERAL WELL DATA

Type of Waste Injected: [illegible]

[illegible]

III. GEOLOGIC INFORMATION

Geological Description of Rock Units Penetrated by Well:

Name	Age	Depth	Thickness	Lithology
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Description of Injection Unit:

	Injection Unit	Confining
[illegible]	[illegible]	[illegible]

Chemical Characteristics of Formation Fluid: [illegible]

Geohydrology of Fresh Water Aquifers in Vicinity:

Name	Depth	Thickness	Lithology	Fluid Character
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Mineral Resources in Area: [illegible]

Location of other wells in the Affected Area: [illegible]

IV. WASTE CHARACTERISTICS

Chemical Description: [illegible]

[illegible]

Reaction with Surface Equipment: [illegible]

Degradability Level and Rate: [illegible]

Biological Level Before and After Injection: [illegible]

Pre-Injection Waste Treatment: [illegible]

V. WELL DESIGN AND SURFACE EQUIPMENT

[illegible]

Type and Amount of Cement: [illegible]

Well Head Equipment: [illegible]

Subsurface Equipment: [illegible]

Completion Method: [illegible]

Plugging Record: [illegible]

Holding Tanks and Flow Lines: [illegible]

[illegible]

VI. OPERATING CHARACTERISTICS

Injection Rates: [illegible]

Injection Pressures: [illegible]

Operating History and/or Problems: [illegible]

VII. MONITORING

Monitoring Devices and Data: [illegible]

Sampling Frequency and Water Quality Parameters Measured: [illegible]

Frequency of Measuring Water Levels and Hydrostatic Heads: [illegible]

Contingency Plan for Well Failure During Operation: [illegible]

Construction Requirements: [illegible]

Monitoring Requirements: [illegible]

Restrictions on Operating Procedures: [illegible]

MISCELLANEOUS

[illegible]

[illegible]

[illegible]

[illegible]

EPA REGION VIII

Colorado = 1028
Wyoming = 1030

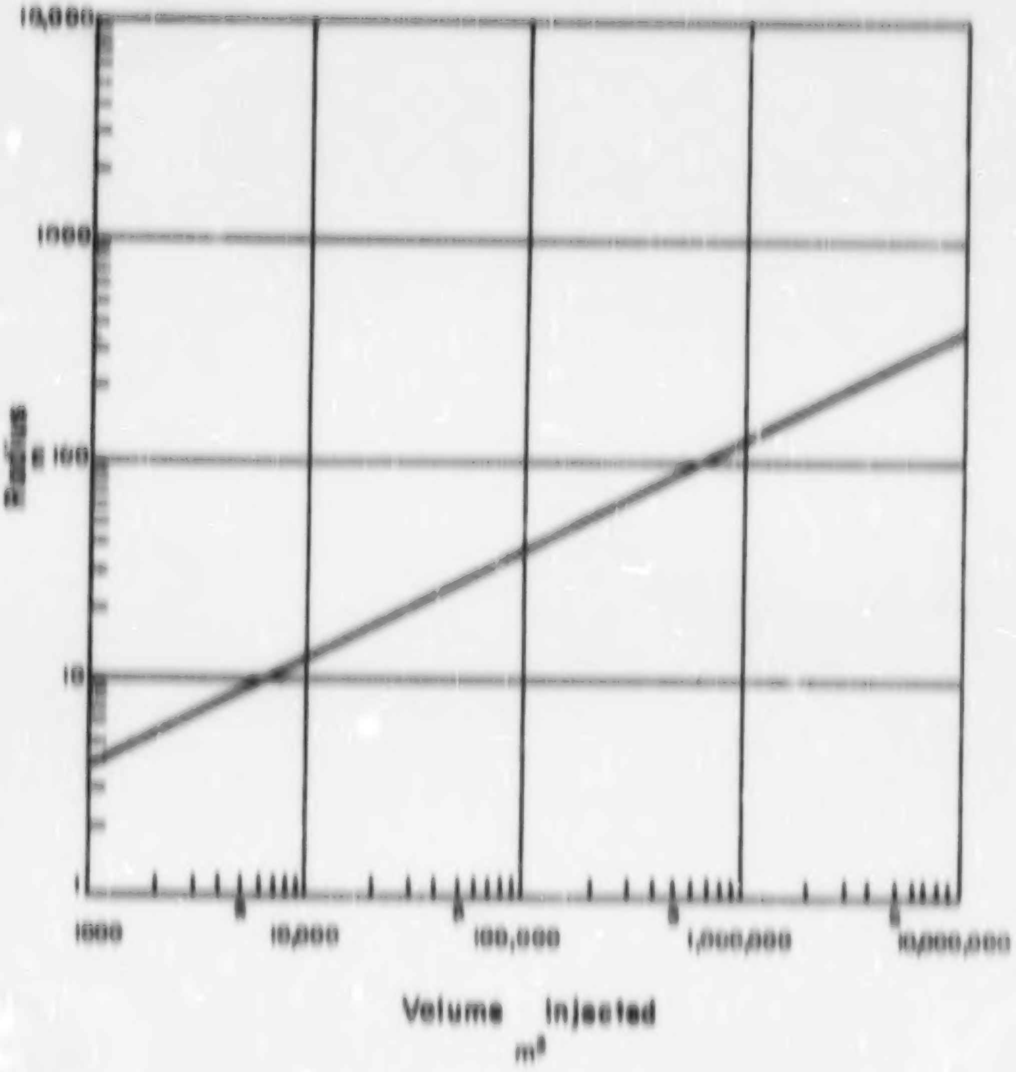


Figure 187 Radius of invasion for well WY-1

EPA REGION IX

California = 1032
Hawaii = 1040
Nevada = 1044

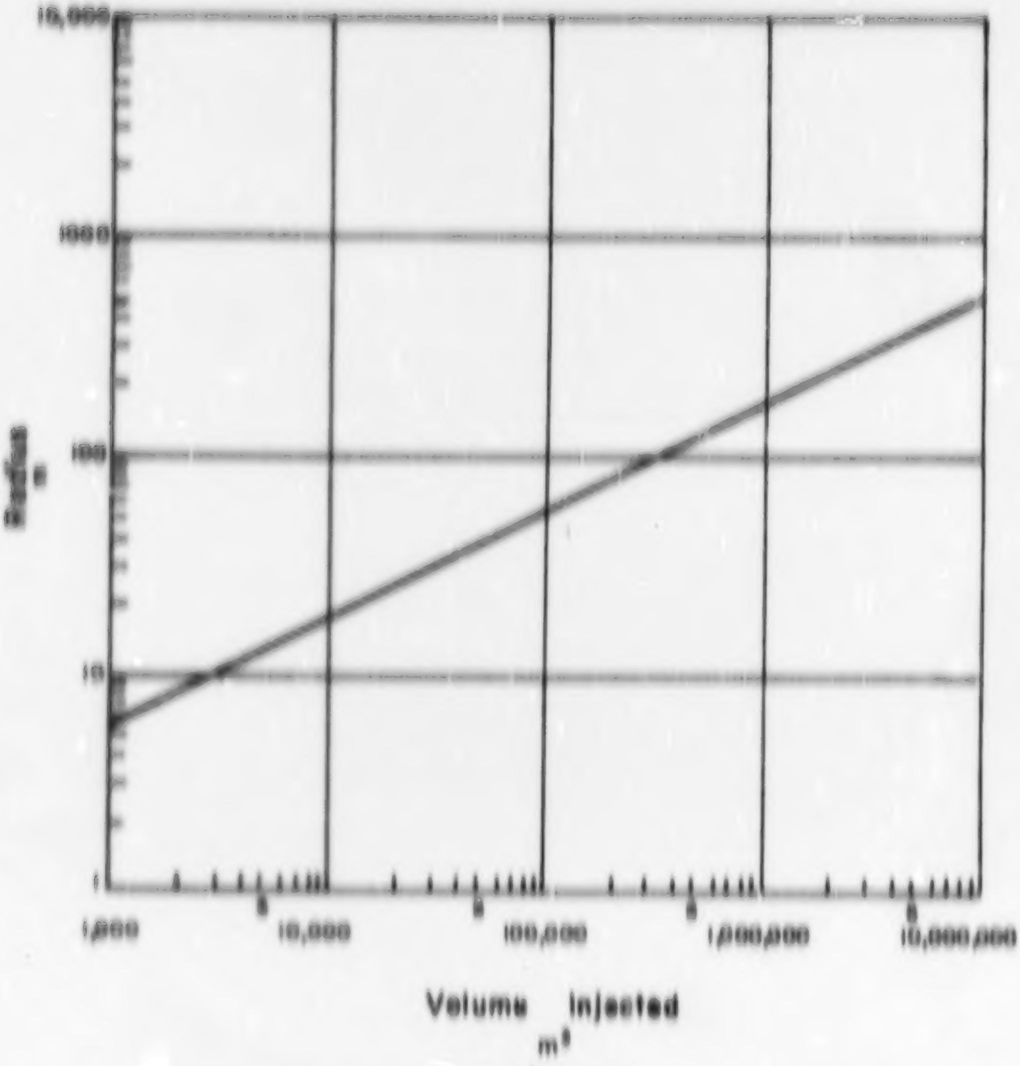


Figure 188 Radius of invasion for well CA-2

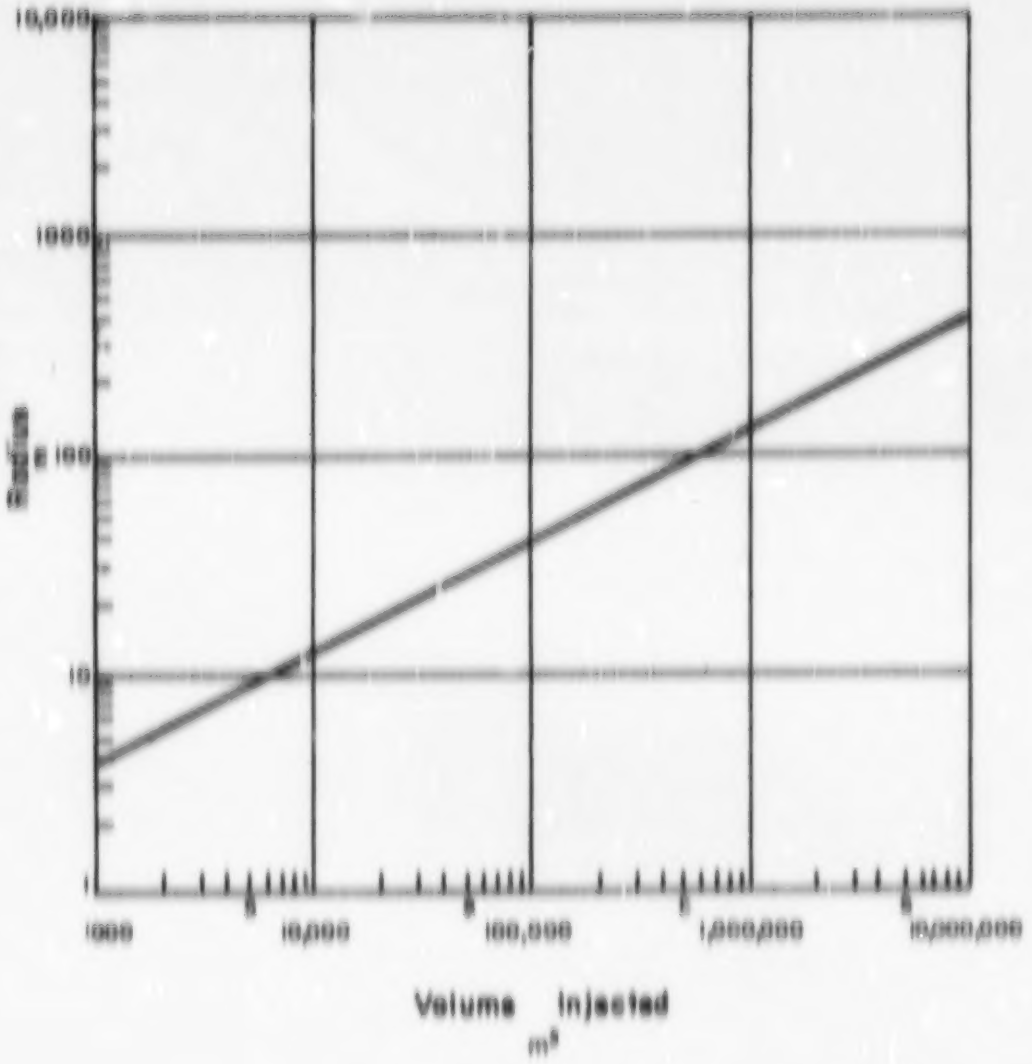


Figure 189 Radius of invasion for well CA-3

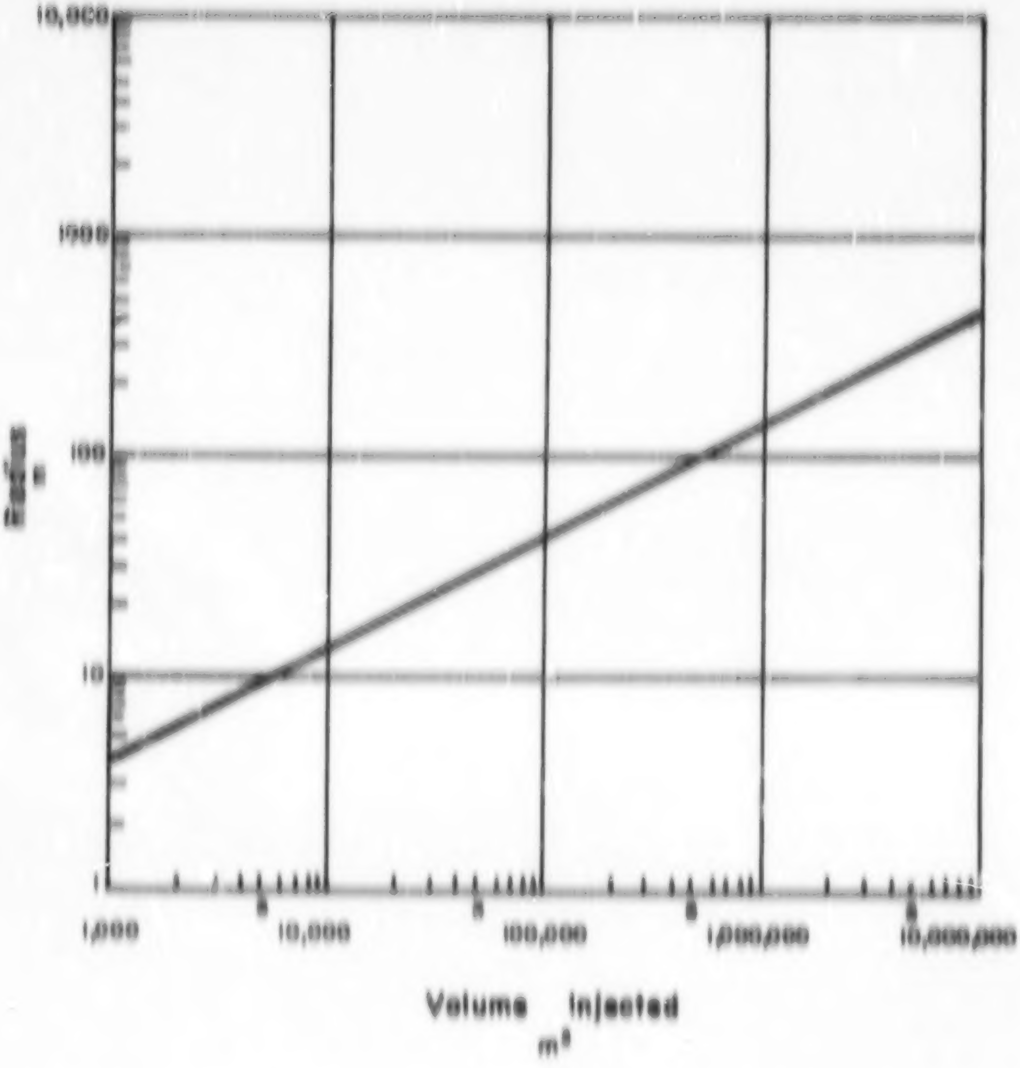


Figure 190 Radius of invasion for well CA-4

[redacted]